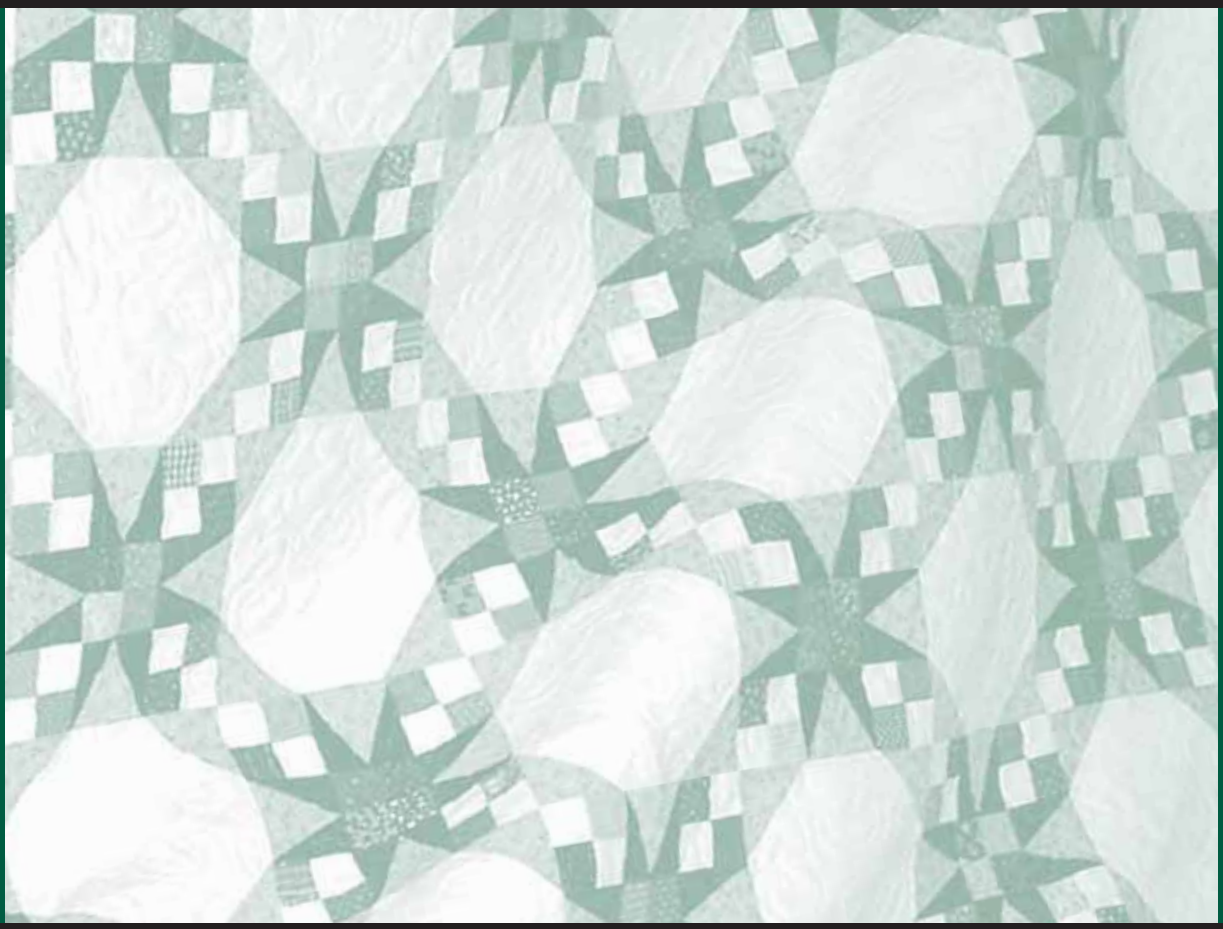
Tennessee Comprehensive Cancer Control Plan for 2005–2008



Piecing Together to Prevent, Control, and Treat Cancer

"Tennessee Waltz Quilt"

DEPARTMENT OF HEALTH

TENNESSEE CANCER COALITION

COMPREHENSIVE CANCER CONTROL PROGRAM

Tennessee Comprehensive Cancer Control Plan for 2005-2008 is a collaboration of professionals in healthcare, social work, higher education, government, and non-profits and of citizens who have first-hand knowledge of cancer.

The quilt on the cover is the Tennessee Waltz pattern. Just as quilts are made up of many small pieces sewn together to form a cohesive whole, Tennessee's comprehensive cancer control plan is the result of representatives from many communities bringing together information and combining it to form a cohesive plan. Never before have Tennesseans joined together to confront the occurrence of cancer with concerted action. A quilt not only offers comfort and warmth, but it is imbued with the thoughtful intentions of the persons who quilted it. The Cancer Control Plan likewise represents the caring and concern of many individuals. The Tennessee Waltz quilt is a metaphor for the Tennessee Comprehensive Cancer Control Plan.

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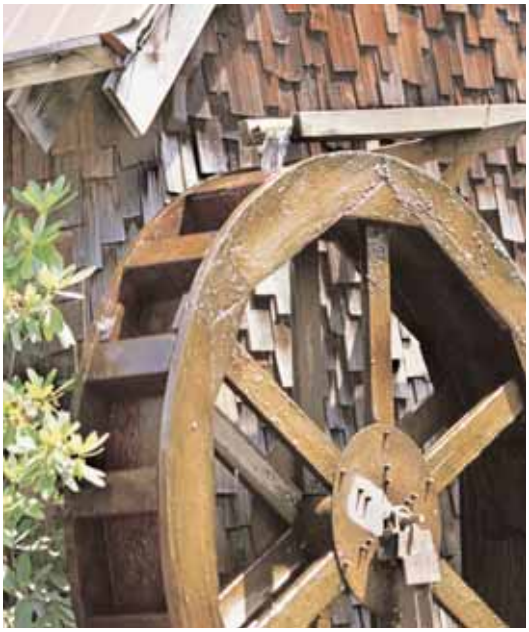

Cancer has an enormous personal, social, and economic impact on everyone it touches—and on our state as a whole. Unfortunately, cancer can impact anyone; it does not discriminate.

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Mission Statement:
To measurably reduce the burden of cancer on the citizens of Tennessee by implementing a collaborative statewide plan driven by data, science, capacity, and outcomes.

The burden of cancer is a continuing concern for the entire nation.

In an effort to systematically address this overwhelming problem, each state has been challenged to create a Statewide Comprehensive Cancer Control Plan. The intent is that these plans will establish the goals and objectives needed to impact the prevention, detection, and treatment of all cancers for individual patients, their families, health-care providers, and communities across the state.

The Tennessee plan contains specific strategies to be implemented to positively address the statewide burden of cancer. Furthermore, it encourages organizations as well as individuals in the state to take action. The plan clearly identifies gaps between Tennessee's current approach regarding cancer control and where the state should be, areas where the state can improve on what it is currently doing, and specific needs that remain unmet. Furthermore, accountability has been built into the plan to assist in achieving the plan's goals and objectives. It will also assure the public-at-large that there is concern for the healthcare needs of the state's citizens. Priorities will be addressed so that all parts of the plan are accomplished in a systematic and successful manner.

In November of 2000, representatives from the Tennessee Department of Health, the Office of Cancer Surveillance, the Tennessee Physician Liaison Committee of the American College of Surgeon's Commission on Cancer, and the Tennessee Mid-South Division of the American Cancer Society attended a federally-funded conference titled "An Institute for State Leaders: Working Together for Comprehensive Cancer Control." This Institute, primarily established by the Centers for Disease Control and Prevention (CDC), was organized as part of a federal initiative to support states' efforts to implement a comprehensive cancer program. As a result of that federal initiative, and in the volunteer spirit of Tennessee, a statewide coalition of individuals concerned with the healthcare of Tennesseans was formed. From that coalition, representatives from throughout the state, who were also outstanding representatives in the cancer control field, formed a steering committee in June of 2001. The steering committee conceptualized the development of the framework to form a comprehensive cancer plan for the State of Tennessee and organized work groups composed of coalition

members. Each work group then identified the areas of greatest cancer burden on the citizens of Tennessee and researched, wrote, and presented key concepts related to its assigned topic. Following critiques and consultations, a statewide Comprehensive Cancer Control Plan for Tennessee was developed and is the document you are reading.

This Comprehensive Cancer Control Plan for the State of Tennessee is intended to guide efforts during the next three years (2005 through 2008) toward lessening the cancer burden in the state. Though this plan does not address all forms of cancer, it is a beginning. Individual citizens, healthcare providers, citizen groups, and legislators alike must all be enlisted to ensure successful implementation of this plan. Individual work groups set goals and objectives based on the mission statement (see page 3) adopted by the Tennessee Cancer Control Coalition.

Clearly, determining the existing inequalities of the cancer burden is of the utmost importance in being able to promote change. It is reasonable to assume that lack of education about disease prevention, detection, and treatment impacts the incidence of cancer in some population groups.

Priorities established by the coalition were also taken into account. Emphasis was placed on identifying disparities and the mechanisms needed to eliminate them. Clearly, determining the existing inequalities of the cancer burden is of the utmost importance in being able to promote change. It is reasonable to assume that lack of education about disease prevention, detection, and treatment impacts the incidence of cancer in some population groups. Access to services is important regardless of diagnosis. However, there are some disparities connected to specific cancers that need to be explored through systematic research for exact determination of their cause(s).

While some concerns can be addressed with sufficient data collection, reliable record keeping, and valid research, others will need legislative intervention. Advocacy on the part of state government can mean dollars for cancer registry funding. It can mean laws that are enacted which increase excise taxes on tobacco with a resulting decrease in usage by Tennessee youth. It can mean rules and regulations that allow healthcare providers to administer appropriate pain medications in useful dosages. Support of the plan by those in positions to assist with these issues is critical to its success.

Overall Coalition Goal

To reduce the cancer burden in the State of Tennessee

Objectives:

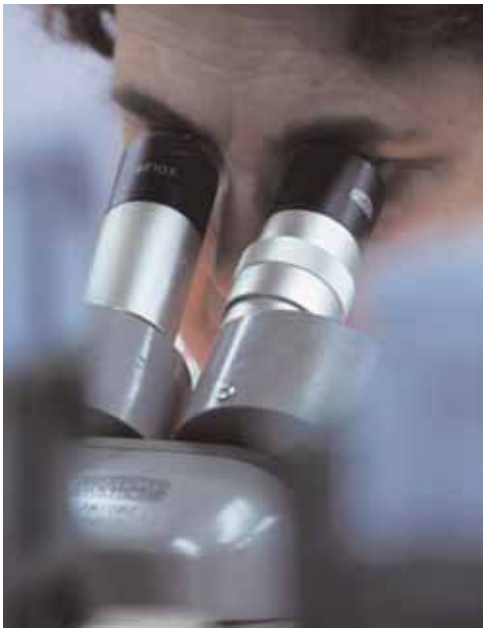
Clarify the source, existence, and extent of disparities among population groups related to the cancer burden in Tennessee.

Increase access to cancer prevention, detection, and treatment for all citizens of Tennessee.

Provide Tennesseans education and educational materials on issues related to cancer by creating additional partnerships with appropriate individuals and agencies.

Encourage research on cancer and cancer-related issues within the state by providing the resources necessary for meaningful study.

Overall Coalition Goal: To reduce the cancer burden in the State of Tennessee



Cancer is not one disease. Rather, it is a group of more than one hundred diseases characterized by uncontrolled growth and spread of abnormal cells.

Scope of the Problem

Cancer etiology has genetic, biologic, and environmental factors which often take years to develop into clinical disease. Everyone is at risk of developing cancer, with that risk increasing with age. Because of the multiplicity of factors, surveillance is one of the most important components of any cancer control plan. Cancer surveillance is a term to describe the ongoing, systematic collection and analysis of information on new cancer cases and cancer deaths.

The Tennessee Cancer Registry (TCR) was established in 1983 with the passage of the Tennessee Cancer Reporting Act.

Quantifying the burden of any disease is complex and is even more so with cancer. Many would agree that reducing mortality is one of the overriding goals of cancer control. However, improving quality of life after diagnosis and during treatment itself may be of more importance than unduly prolonging physical, psychosocial, and economic suffering. Incidence rates provide the clearest measure of disease burden at the population level. Compared to mortality rates, incidence rates allow a more meaningful comparison among diverse populations, ethnic groups, geographic entities, and time periods. Mortality rates are dependent upon prognosis and treatment effectiveness, which often vary based on the type and location of cancer.

Cancer data can be used to identify trends over time, discover cancer patterns among various populations, and evaluate the effectiveness of screening or other prevention measures. Ideally, data collected through surveillance should be analyzed with the intent of making healthcare policy decisions potentially affecting disease treatment and/or resource allocation.

One of the primary cancer surveillance tools is a cancer registry. The Tennessee Cancer Registry (TCR) was established in 1983 with the passage of the Tennessee Cancer Reporting Act. In 1997, the TCR received grant funding from the National Program of Cancer Registries (NPCR) as a planning and implementation state, with a

reference year of 1999. In 2000, the state legislature passed an amendment to the Tennessee Cancer Reporting Act which brought the TCR into compliance with Federal Law 102/515. In 2002, permanent rules and regulations replaced the previous public necessity rules and regulations.

Healthcare facilities are required to report cancer data to the TCR within six months of the date of diagnosis. Normally, all cancers for a particular year are received into the TCR no later than July 1 of the following year. Currently, the National Cancer Institute allows a standard delay of 22 months between the end of the diagnosis year and the time the cancers are first reported. Delays in reporting in recent years were due to major changes in the national standards established for collecting cancer data.

Cancer rates tend to vary with age as do populations. Therefore, rates of distribution, incidence, and mortality are age-adjusted to allow comparisons between different populations (i.e., regional boundaries). Age-adjustment allows rates to be compared between population groups with different age distributions. All age-adjusted rates are expressed as events per 100,000 individuals per year.

Tables and figures describing cases of cancer reported to the Tennessee Cancer Registry are available in Appendix A. The data represent cases of cancer diagnosed between January 1, 1997, and December 31, 2000. The overall age-adjusted rate of cancer in Tennessee from 1997 through 2000 is 391.8 per 100,000. This rate is lower than the national rate for a similar time period. However, the TCR only collects data on approximately 80% of all cases of cancer among Tennessee residents; therefore some of the difference in rates may be accounted for by this limitation.

The overall age-adjusted rate of cancer in Tennessee from 1997 through 2000 is 391.8 per 100,000.

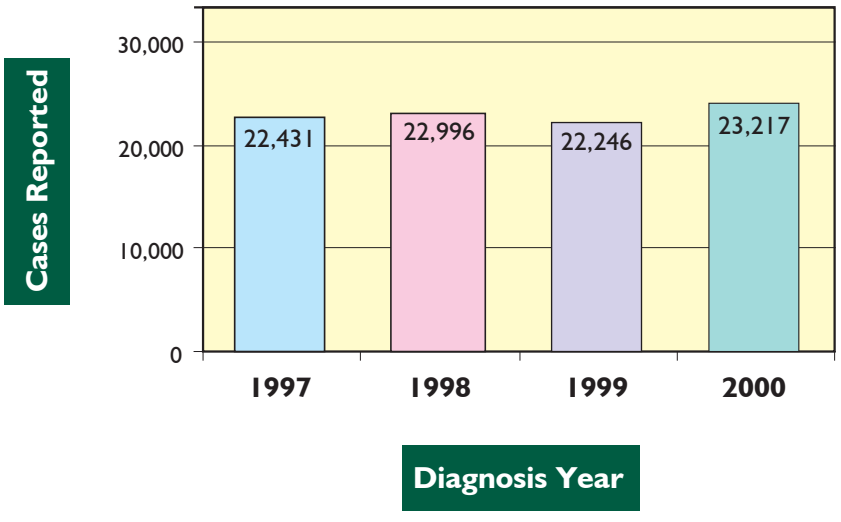
The top five cancers in Tennessee have remained fairly consistent: lung, breast, prostate, and colon cancer with bladder and non-Hodgkins lymphoma each appearing twice.

In Tennessee, the rate of cancer for males is greater than the rate for females (463.9 v. 348.1). This disparity is consistent with national data. The rate of lung cancer among males in Tennessee is higher than the national rate (102.8 v. 80.8), and the rate of lung cancer among females in Tennessee is slightly lower than the national rate (47.8 v. 49.6). The rate of breast cancer among female residents of Tennessee is lower than the national rate (115.7 v. 135.0). Caucasian females in Tennessee have a higher rate of ovarian cancer than African-American females (12.6 v. 9.2), and both of these rates are also lower than the national rate. Overall, African-American residents of Tennessee have a higher rate of cancer than Caucasian residents (422.6 v. 387.9). This is consistent with national data. Caucasian residents, though, have higher rates of non-Hodgkin's lymphoma and urinary bladder cancer, although African-American residents have higher rates of lung and colon cancers.

Complete and accurate cancer surveillance data provide state and local health authorities with the basic information needed for defining target populations in cancer controlling efforts, identifying populations most likely to benefit from cancer screening and other early detection modalities, developing sound public health policy that is derived from scientific fact, and prioritizing public concerns about disparate cancer burdens. Information about the distribution of cancer rates in Tennessee counties is available in Appendix B.

The number of newly diagnosed cancer cases reported to the TCR from 1997 through 2000 is presented in Figure 1.

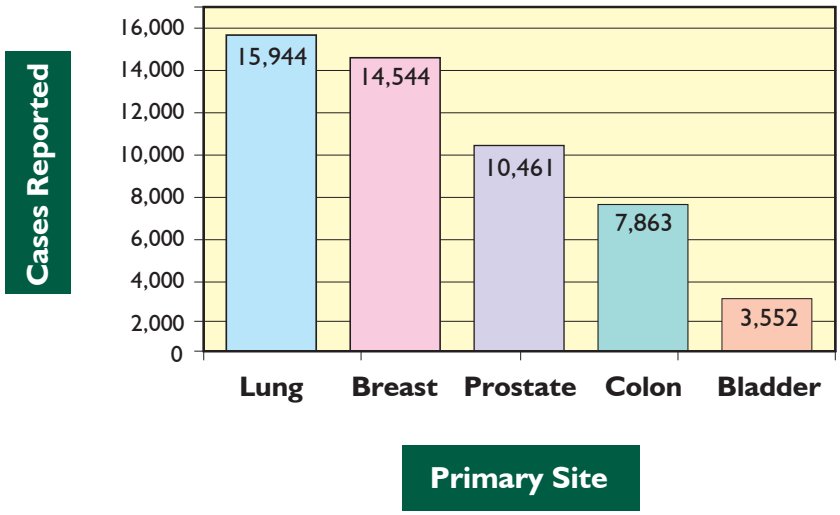
Figure 1. All Cancers by Year of Diagnosis



Source: Tennessee Cancer Registry
Data are approximately 80% complete. Interpret with caution.

The top five cancers in Tennessee have remained fairly consistent over the four years described here. Lung, breast, prostate, and colon cancer have topped the list each years, with bladder and non-Hodgkins lymphoma each appearing twice. The incidence of the top five cancers for Tennessee are presented in the following Figure 2.

Figure 2. Top Five Cancers Among Tennessee Residents 1997 through 2000



Source: The Tennessee Cancer Registry
Data are approximately 80% complete. Interpret with caution.

Clearly, accurate and current data are mandatory for knowledgeable approaches to cancer control.

Barriers

Clearly, accurate and current data are mandatory for knowledgeable approaches to cancer control. The job of surveillance is crucial in obtaining this information. Without it, well-meaning efforts may not appropriately address the prevention, detection, and control of cancer in Tennessee. Several barriers impacting surveillance have been identified.

The shift to non-hospital sources of diagnosis and treatment has placed a large number of cases outside of the usual reporting mechanisms.

The TCR receives more than 30,000 reports each year from hospitals; however, not all of these reports represent newly diagnosed cancer of Tennessee residents. Some reports contain treatment data for previously reported cases, while others represent actual residents of other states who just happened to be diagnosed in Tennessee.

Reported cases represent approximately 80% of those expected in Tennessee. The expected number of cancer cases is based on the distribution of cases at the national level. In order to comply with national standards, the TCR is required to collect data on at least 90% of the expected number of cases. Hence, Tennessee is currently missing roughly 20% of its cases.

Strategies

Effective surveillance relies on clinical data from both the laboratory and the physician. In order to standardize the reporting process across registries, the North American Association of Central Cancer Registries (NAACCR) has developed a recommended approach for electronic reporting from pathology laboratories to central registries. This approach incorporates current industry standards and also provides additional resources to support transmission and communication protocols.

Effective surveillance relies on clinical data from both the laboratory and the physician.

Health Level 7 (HL-7) is the leading private laboratory-industry standard for the transmission of clinical data, with laboratory information system vendors being capable of supporting it. As a result, adopting HL-7 as the standard means of transmitting clinical data offers the most efficient route to standardized laboratory reporting.

For further standardization, the TCR has developed and implemented quality assurance methods, auditing procedures, and training programs in order to increase the number and percent of cases reported. There is hope that this implementation will help push Tennessee towards the estimated 90% mark.

Overall Goal

Support the operation of a population-based, statewide cancer registry that meets national standards of case completeness and data quality

Overall Goal: Support the operation of a population-based, statewide cancer registry that meets national standards of case completeness and data quality

Objectives:

Increase hospital; specialty, outpatient, diagnostic, and laboratory treatment facilities; and physician reporting to include at least 90% of expected cases by 2008.

– Perform case-finding audits annually at 10 hospitals by 2008.

– Perform death-record linkage with cancer data twice each year to identify potentially missed cancer cases.

– Identify gaps which result in the non-reporting of cases.

Initiate a training program for cancer reporters and provide education and training at 10 sites across the state each year (2006, 2007, 2008).

Establish electronic reporting from all cancer specialty laboratories that diagnose cancer by 2008.

– Design, develop, and implement procedures for electronic laboratory reporting.

– Develop reporting mechanism, format of data, and reporting procedures.

– Develop follow-up procedures for unreported cases.

Recruit and maintain a surveillance committee that meets at a minimum, quarterly. At least one meeting a year should be conducted face-to-face, though the other meetings may be by means of teleconference. The members and invited guests should include, but are not limited to, laboratory and hospital personnel, cancer tumor registrars, and physicians. These meetings should occur by 2008.

– Increase patient awareness of and enrollment in clinical trials through targeted presentations and promotional events sponsored by the Coalition Surveillance Committee.

Tobacco-Related Cancers

Scope of the Problem

Tobacco use extracts an alarming toll on life, health, and economics in the state. Nearly 1.2 million adult Tennesseans smoke (27.8%), the fourth highest ranking in the nation (2003 Behavioral Risk Factor Surveillance Survey [BRFSS]). Furthermore, tobacco use is the single most preventable cause of death and disease in the United States. Statistics support the strong connection between cancer deaths and tobacco usage, along with its prevalence in Tennessee.

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...tobacco use is the single most preventable cause of death and disease in the United States.

- Cigarette smoking causes 87% of lung cancer deaths and is responsible for most cancers of the larynx, oral cavity and pharynx, esophagus, and bladder. (National Cancer Institute[NCI])

- Smoking causes 32% of all fatal cancers. (American Cancer Society)

- Tennessee ranks fourth in the U.S. for lung and bronchus cancer mortality (2001, National Vital Statistics System, SEER data, Cancer Control PLANET), as well as fourth in smoking prevalence. (BRFSS 2003).

- Smokeless tobacco usage causes oral and pharyngeal cancers. (Smokeless Tobacco or Health, NCI monograph)

- Twenty-one percent of male high school students in Tennessee use smokeless tobacco. (Campaign for Tobacco-Free Kids, Toll of Tobacco in Tennessee, 2005).

- Twenty-seven percent of Tennessee high school students smoke, compared to 22% of U.S. students. (2003 Tennessee Youth Risk Behavior Survey; 2003 U.S. Youth Risk Behavior Survey).

- For tobacco-related cancers, new cases routinely equal death. Only 14% of all lung cancer patients (all stages) will be alive five or more years after their diagnosis. (National Comprehensive Cancer Network [NCCN] Guidelines Conference, February 2004).

- In Tennessee, Caucasian males between the ages of 30 and 45 without a high school diploma and with a household income of less than $35,000 have the highest smoking rate. (CDC, Tobacco State Highlights 2002)

- Fifty-one percent of the state's uninsured and underinsured Medicaid (TennCare) recipients currently smoke. This estimated number of smokers was 502,998 in 2002 (CDC, "Medicaid Coverage, 1998 & 2000. MMWR; 50 (44): 979-982, 2001) and represented almost 50% of the total number of

smokers in the state. The cost to the state for smoking-attributable Medicaid costs per capita was $142.6 million. (CDC's Data Highlights 2004 "Tobacco Control State Highlights 2002; Impact and Opportunity")

African-Americans in Tennessee have higher lung and bronchus cancer mortality rates than Caucasians, as well as higher rates than African-Americans nationally. (National Vital Statistics System, SEER data, Cancer Control PLANET, Historical Trends, 1976-2000).

Environmental Tobacco Smoke (ETS), commonly known as secondhand smoke, is the smoke that is given off between puffs or that is exhaled by the smoker. This smoke is classified by the U.S. Environmental Protection Agency (EPA) as a Group A carcinogen, a category reserved for only the most dangerous cancer-causing agents in humans.

Only 63% of Tennesseans are protected at work from smoke. (CDC, Tobacco Control State Highlights 2002).

Almost 50% of Tennessee high school students live with someone who smokes. (Tennessee Youth Tobacco Survey, 2000-2002).

The economic cost of tobacco use is staggering. Approximately 1.69 billion dollars is spent annually on smoking-related health costs in Tennessee. (CDC, Tobacco Control State Highlights 2002). Medical and productivity losses cost $7.18 per pack of cigarettes, or $2.44 billion annually for productivity costs alone (Campaign for Tobacco-Free Kids: Special Report. State Tobacco Settlement: The Toll of Tobacco in Tennessee, 2004). Loss of these economic resources is of grave concern.

Barriers

There are no cessation assistance and tobacco control medication/pharmacotherapies covered under Medicaid (Halpin, HA, Keeler, CT, Orleans, CT et al, "State Medicaid Coverage for Tobacco-Dependence Treatment – U.S., 1994-2002,". MMWR 2004: 53(3), 54-57).

Tennessee has failed to protect its citizens with effective tobacco control policies. In its third annual report, the State of Tobacco Control 2004, the American Lung Association gave Tennessee the following grades:

– Tobacco Prevention and Control Spending, grade F: Tennessee spends no Master Settlement Agreement dollars on tobacco use prevention. The state receives in excess of $250 million per year in settlement funds from the tobacco industry but directs all of these funds to the general revenue fund, ranking us 51st in the

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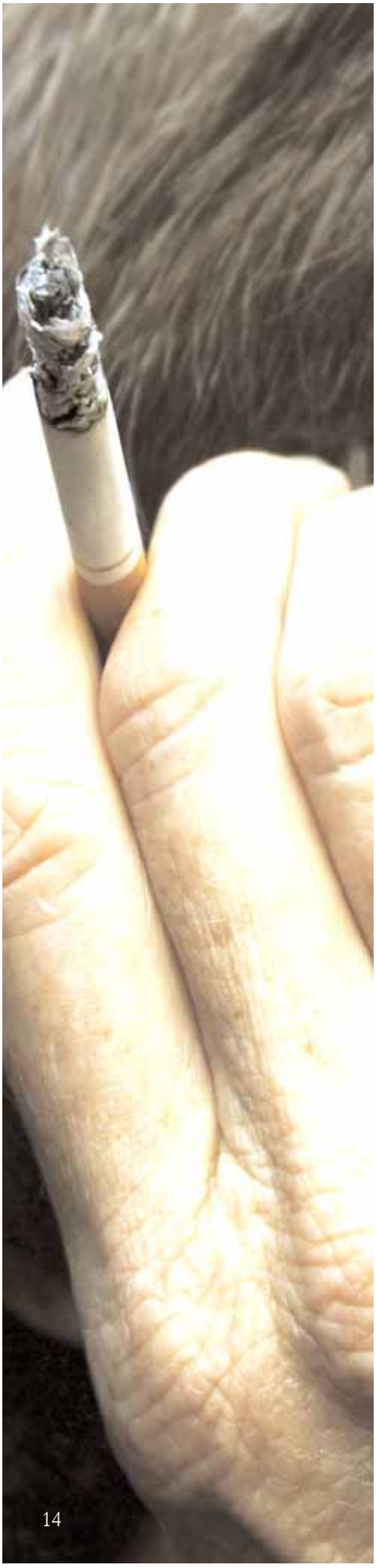
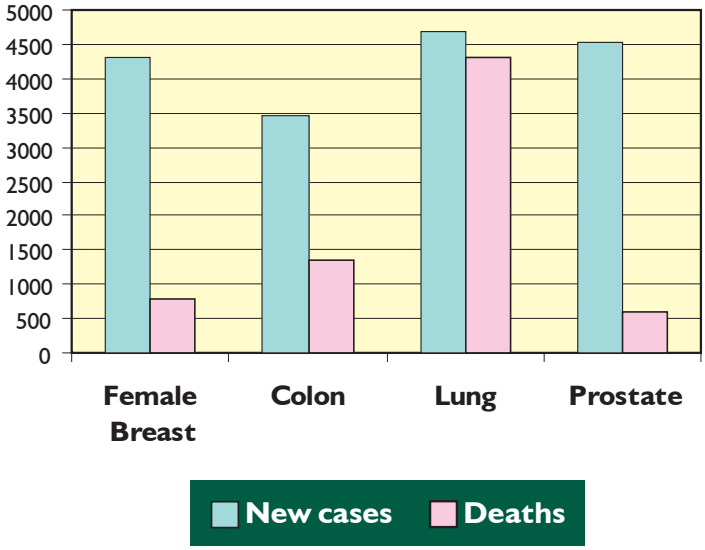


Figure 3: Lung Cancer Kills Many More

Estimated New Cancer Cases vs.
Deaths in Tennessee, 2004



Source: American Cancer Society, Cancer Facts and Figures, 2004

**Estimated new cases of breast, colon, lung, and prostate cancers are high in Tennessee, but only lung cancer kills such a large proportion.*

Table 1: Lung and Bronchus Cancer Incidence

Rate / 100,000

	US	TN
Male	73.7	110.5
Female	43.0	49.3

Source: 2000 U.S. SEER data

Table 2: Lung and Bronchus Cancer Mortality: 1997–2001 Annual Death

Rate / 100,000

	US	TN
Male	77.9	105.2
Female	40.8	43.2

Source: National Vital Statistics System, SEER data, Cancer Control PLANET

nation in tobacco prevention spending. Tennessee depends on its CDC tobacco grant for all tobacco control funds for the state, minus a $200,000 match required to maintain the grant.

– Cigarette Taxes, grade F: Tennessee trails behind other states in raising the cigarette excise tax, a tactic that has been shown to reduce youth smoking. Tennessee's tax is 20 cents a pack, compared to the national rate of 74.4 cents, ranking us 44th in the nation.

– Smoke-Free Air, grade F: A 1994 Tennessee law prohibits local governments from enacting local smoking policy measures. Twenty-six city and county governing bodies passed resolutions requesting repeal of this law, but as of January 2005 the legislature has not acted on this request to repeal.

– On the positive side, Tennessee did receive a grade of B on reducing youth access to tobacco products. State law requires penalties for retailers selling products to persons under 21; a statewide enforcement agency; and a system of random unannounced inspections of stores.

Tobacco companies spend $227.2 million to advertise tobacco products in Tennessee each year. (Campaign for Tobacco-Free Kids, The Toll of Tobacco in Tennessee, 2004)

Tennessee is one of the top three tobacco-producing states in the country. (National Center for Tobacco Free Kids, 2000)

Once a diagnosis of bronchial cancer is made, it is even more difficult to educate patients of the value in ceasing the use of tobacco products.

There are no early screening tests that exist to assist with diagnosis of bronchial and lung cancers. Perhaps finding such tests will help curtail tobacco usage sooner.

Strategies

Various legal mechanisms have been put into place to decrease the likelihood of tobacco use. Among them are the Children's Act for Clean Outdoor Air, as well as the Prevention of Youth Access to Tobacco Act of 1994.

With legislative efforts, the focus is on prevention of tobacco among the future generations of Tennesseans. Statistics support that a well-funded Comprehensive Tobacco Prevention and Control Plan can make a significant impact on tobacco-related issues.

Enlisting the help of various agencies across the state (such as the Tennessee Department of Health, the Tennessee Department of Education, local healthcare facilities, various private industries, statewide medical and nursing groups, independent behavioral health consultants, social action groups, concerned minority groups, the American Cancer Society, and the American Lung Association) in promoting cessation of smoking and tobacco use will provide broad-based support for efforts to increase voluntary smoke-free businesses, enforcing smoke-free public policies, and enhancing the knowledge and positive attitudes toward smoke-free policies.

It will be very beneficial to identify and eliminate disparities between and among racial, ethnic, and socioeconomic groups.

Tobacco-Related Cancers continued

Overall Goal

To reduce the percentage of Tennesseans who use tobacco products

Objectives:

Clarify and reduce discrepancies in tobacco-related cancers among population groups.

– Collect data on tobacco usage specific to groups other than Caucasian and African-American individuals.

– Develop and implement a campaign to address tobacco usage among target populations such as African-American men and all women.

– Develop and implement a campaign to address tobacco usage among populations of low socioeconomic status (SES).

Decrease tobacco usage among youth by 10% by 2008.

– Promote enforcement of existing laws and penalties for underage tobacco usage.

– Implement a marketing campaign to counter the tobacco industry's influence on youth.

– Use educational strategies to promote policy enforcement and appropriate policy changes in Tennessee schools by encouraging tobacco-free coaches and sporting events, along with the enforcement of smoke-free schools.

– Promote establishment of a statewide integrated tobacco-free curriculum for grades K-12 in public schools.

– Provide educational information to advocates working towards increasing tobacco product prices (e.g., raise state excise taxes) to the national average.

Overall Goal:
To reduce the percentage of Tennesseans who use tobacco products

By promoting integrated cessation services, increase by 10% the number of adults and youth who successfully cease tobacco usage by 2008.

– Increase quit attempts with proven cessation methods by promoting Tennessee's smoking quitline.

– Increase the number of healthcare providers providing cessation support and counseling to patients.

– Increase the number of employers/businesses that offer and encourage cessation education and support programs.

– Develop a targeted print and media campaign for the underserved and underinsured population.

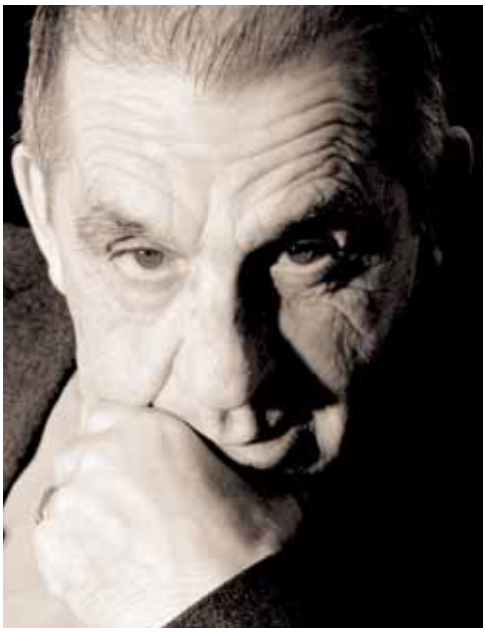
Reduce exposure of Tennesseans to Environmental Tobacco Smoke (ETS) by 2008.

– Increase knowledge, attitudes, and support for smoke-free policies via an ETS marketing campaign.

– Increase educational efforts so that advocates can more effectively work to repeal the state law preempting local control of smoke-free policies by 2007.

– Develop and implement a campaign to promote voluntary smoke-free businesses.

– Strengthen enforcement of current smoke-free public policies.



Prostate Cancer

Scope of the Problem

The American Cancer Society predicted that of 4,540 new cases of prostate cancer diagnosed among men in Tennessee in 2004, approximately 590 men will die. All men are at risk of developing prostate cancer, with age being the most common risk factor. More than 70 percent of men diagnosed with prostate cancer each year are over the age of 65. African-American men have a higher risk of prostate cancer than Caucasian men. (See table 3 below.)

All men are at risk of developing prostate cancer, with age being the most common risk factor.

Table 3: The Average Annual Age-Adjusted Mortality Rates for Prostate Cancer Deaths by Race 1997–2001
(per 100,000 men)

	Tennessee	National
Overall	34.3	31.5
Caucasian	29.6	28.8
African-American	74.8	70.4

Source: 2004 CDC Cancer Burden Fact Sheets, CDC National Center for Health Statistics: www.cdc.gov/cancer/CancerBurden/tn.htm#prostate

Tennessee rates are lower than the national average for incidence, but higher for mortality. (See table 4 below.)

Table 4: Tennessee Age-Adjusted Incidence and Mortality Rates Compared to National Rates 1996–2000
(per 100,000 men)

	Tennessee	National
Incidence	125.9	179.1
Mortality	35.8	32.9

Source: 2004 CDC Cancer Burden Fact Sheets, CDC National Center for Health Statistics: www.cdc.gov/cancer/CancerBurden/tn.htm#prostate

Barriers

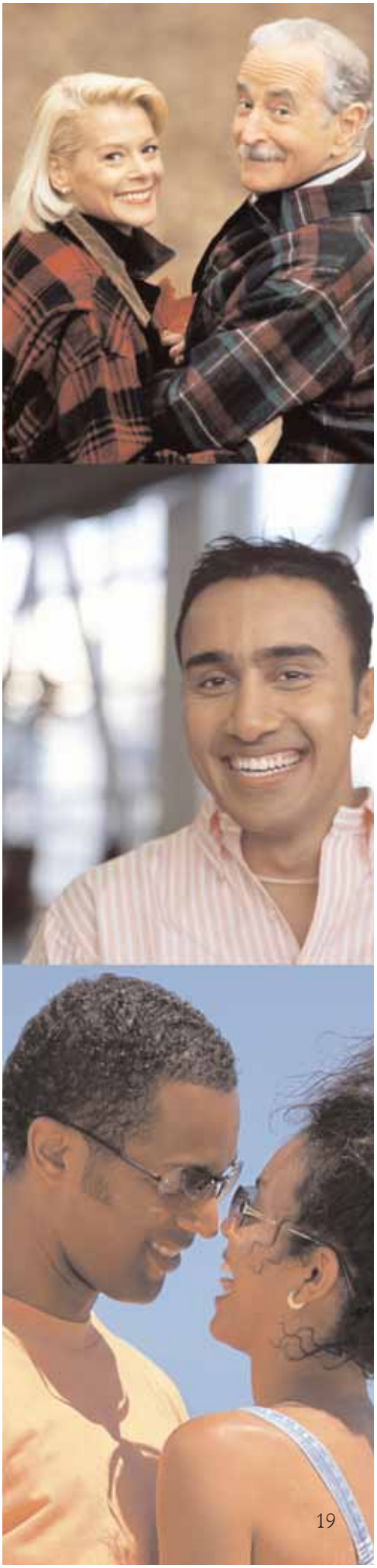
Prostate cancer often does not display symptoms for many years. However, when symptoms do occur, the disease may have already spread beyond the prostate.

The two most common tests for detecting prostate cancer are the prostate specific antigen (PSA) and the digital rectal exam (DRE) tests. There is good evidence that elevated levels of PSA may detect early-stage prostate cancer; however, there is mixed and inconclusive evidence about whether early detection improves health outcomes. Furthermore, prostate cancer screening is associated with important harms, including anxiety and frequent false-positive results. Neither of the screening tests for prostate cancer is perfect. Most men with mildly elevated PSA levels do not have prostate cancer, and many men with prostate cancer have normal levels of PSA. Also, the DRE can miss many prostate cancers. As a result, the DRE and PSA tests used together are better than either test used alone in detecting prostate cancer.

Because current evidence is insufficient to determine whether the potential benefits of universal prostate cancer screening outweigh its potential harms, there is no scientific consensus that such screening is beneficial.

Advisory groups disagree about the appropriateness of universal screenings. Current recommendations to consider are

- The U.S. Preventive Services Task Force (USPSTF) concludes that the evidence is insufficient to advocate either for or against routine screenings for prostate cancer using prostate specific antigen (PSA) testing or digital rectal examination (DRE).
- The American Cancer Society, American Urologic Society, and the American College of Radiology do recommend universal screening.
- The Preventive Services Task Force, American College of Physicians, and Canadian Task Force on Periodic Examination do not recommend universal screenings.
- The Centers for Disease Control (CDC) promotes informed decision-making, which occurs when a man understands the seriousness of prostate cancer; understands the risks, benefits, and alternatives to screening; participates in decision-making to the level he wishes; and makes a decision about screening that is consistent with his preferences. However, the CDC does not recommend routine screening for prostate cancer because



Public education is extremely important in the prevention and control of prostate cancer.

Prostate Cancer continued

there is no scientific consensus on whether screening and treatment of early stage prostate cancer reduces mortality.

There is some evidence that a diet higher in fat, especially animal fat, may account for differences in the incidence of prostate cancer. Many Tennesseans have a diet high in fat, often because even vegetables are cooked with added animal fat.

Quality of life is an important consideration for patients. Because common side effects of all prostate cancer treatments include problems with urinary incontinence, erectile dysfunction, or other sexual side effects, many men share a fear of potential complications with treatment.

Strategies

Public education is extremely important in the prevention and control of prostate cancer. Informed decision-making occurs when a man understands the seriousness of prostate cancer; comprehends the risks, benefits, and alternatives to screening; participates in decision-making to the level he wishes; and makes a choice about screening that is consistent with his preferences.

Educating all healthcare professionals about the most current research and recommendations on screening and treatment is necessary if men in Tennessee are to receive the best care.

Partnering with other state and local agencies (e.g., the Tennessee Department of Health, the Tennessee Department of Education, local healthcare facilities, various private industries, statewide medical and nursing groups, social action groups, concerned minority groups, the American Cancer Society, the American Urological Society, USTOO [a National Prostate Cancer Support Group], and other community groups in acquiring appropriate materials will assist in maximizing available resources. In addition, providing information and resources to medical practitioners regarding USPTF and CDC is recommended. One-day workshops with comprehensive regional programs offering in-depth information to increase community education on prostate cancer, prevention, early detection, research protocols, and quality of life issues will also help disseminate current scientific findings.

Overall Goal

To promote informed decision-making about issues associated with prostate cancer and prostate cancer screenings

Objectives:

Track disparities in prostate cancer incidence among population groups by 2006.

– Calculate incidence of prostate cancer among African-American males.

– Provide education on mortality data and the disparity therein affecting the African-American population in Tennessee.

– Collect data on prostate cancer specific to targeted populations other than Caucasian and African-American individuals.

Increase educational opportunities for all citizens of Tennessee related to prevention, detection, and treatment of prostate cancer by 2007.

– Offer continuing education programs to healthcare providers on recent scientific findings regarding prostate cancer.

– Develop educational materials which convey the most current and accurate information about prostate cancer treatment options and their complications.

– Address quality of life as an important issue when treatment options are being presented and considered.

Overall Goal: To promote informed decision making about issues associated with prostate cancer and prostate cancer screenings

Colorectal Cancer

Colorectal cancer is the second-leading cause of cancer-related death in the United States and is the third most common cancer in men and women.

Scope of the Problem

Colorectal cancer (cancer of the colon or rectum) is the second-leading cause of cancer-related death in the United States and is the third most common cancer in men and in women. Colorectal cancer (CRC) is also one of the most commonly diagnosed cancers in the United States, with approximately 147,500 new cases being diagnosed in 2003. The American Cancer Society estimated that 3,470 new cases of colorectal cancer were diagnosed among men and women in Tennessee in 2004. Additionally, an estimated 1,340 men and women died of colorectal cancer in Tennessee in 2004. (See Table 5 for the CDC National Center for Health Statistics comparing national death rates to those in Tennessee).

National incidence rates for colorectal cancer also show significant divergence by racial/ethnic groups. African-Americans have the highest incidence rate at 38.7 per 100,000 people, followed by the non-Hispanic Caucasian population. Excluding American Indians, the lowest incidence rates are among Caucasian-Hispanic and Hispanic populations. In general, mortality patterns by race/ethnicity for colorectal cancer are similar to those associated with disease incidence. Although less observable, there are also racial/ethnic disparities with regards to colorectal cancer survival. The five-year relative survival rate for colon cancer is higher for Caucasians than for African-Americans. The difference in

Table 5: The Average Annual Age-Adjusted Death Rates for Colorectal Cancer per 100,000 Persons, by Race, 1997–2001

Death Rates	Tennessee	National
Overall	21.6	20.8
Caucasian	19.9	20.3
African-American	35.5	28.3
Hispanic	-	14.2
Asian/Pacific Islander	-	13.0
American Indian/Alaska Native	-	13.9

Source: CDC National Center for Health Statistics

**Hyphens represent suppression of rates when there were 75,000 or fewer of persons in the denominator, or 20 or fewer deaths in the numerator.*

survival becomes increasingly marked among older individuals, most notably in those age 65 years and older.

Overall, the incidence rates of colorectal cancer have increased slightly in recent years, after a decade-long period of declining rates. The trend in declining rates may have been due to a combination of increased public health efforts to enhance disease prevention through lifestyle modifications, early detection and removal of adenomatous polyps, access to medical services, and significant improvements in medical technology. While such changes in disease incidence are notable public health accomplishments, the fact remains that colorectal cancer is still a leading cause of mortality, and screening rates for colorectal cancer are discouragingly low. The American Cancer Society, the U.S. Preventive Services Task Force, the American Gastroenterological Association, and the American College of Gastroenterology recommend that men and women of average risk (without symptoms of colorectal cancer or other relevant risk factors) should begin screening for colorectal cancer at age 50. To that end, all Tennesseans should be made aware that effective and recurrent screenings are an important modality through which colorectal cancer can be identified and many times successfully treated.

Barriers

- The majority (75%) of individuals who newly present with cancer have no obvious predisposing factors for the disease, excluding the primary risk factor, age (about 90% of colorectal cancer cases occur in people over the age of 50).

- Symptoms are considered nonspecific indicators of colorectal cancer and are also characteristic of many other digestive diseases. It is possible to have colorectal cancer without experiencing any symptomology.

- Symptomology associated with cases of colorectal cancer are more frequently presented in the late stages of cancer (e.g., Stage III).

The incidence rates of colorectal cancer have increased slightly in recent years, after a decade-long period of declining rates.

Overall Goal: Prevent and reduce the rate of colorectal cancer in Tennessee

Colorectal Cancer continued

There is a lack of public awareness regarding symptomology, risk factors, screening, and the availability of insurance coverage for screening and testing.

There is a general fear of the screening processes (colonoscopy, sigmoidoscopy).

The are too few providers to perform initial physicals, clearance examinations, colonoscopies and/or sigmoidoscopies in underserved communities, rural areas, and minorities.

Public education is needed regarding the availability and accessibility of Fecal Blood Occult (FOBT) as a low-cost clearance examination.

Strategies

Obtain baseline data of screening rates utilizing a sample survey of providers across the state.

Measure the public's knowledge, attitudes, beliefs, and screening practices by means of statewide surveys (e.g., focus groups, surveys of outreach workers, and BRFSS, etc.)

Develop appropriate messages and use appropriate educational channels for CRC screening recommendations. Messages should be available in various languages and should reach both genders, as well as those of different racial, ethnic, and cultural backgrounds, and those with varying literacy levels.

Specifically target messages to people aged 50 and older and to those at increased risk (i.e., those with a family history of CRC or adenomatous polyps in first-degree relatives and those with a personal history of inflammatory bowel disease, endometrial cancer, or ovarian cancer).

Disseminate information about the availability of insurance coverage for CRC screenings.

Educate and encourage the public to ask their healthcare providers about CRC screenings and to question their health insurers about coverage for such screenings.

Use role models, cancer survivors, community groups, and people who have been screened as a means of reaching target audiences with educational messages.

Evaluate the effectiveness of educational messages.

Overall Goal

Prevent and reduce the rate of colorectal cancer in Tennessee

Objectives:

Collect additional data to assess barriers to CRC screenings and treatment by 2006.

Identify agencies and programs across the state of Tennessee that are currently active in CRC education and screening.

– Obtain baseline data of CRC screening rates of people age 50 and over by utilizing a sample survey of providers across the state.

– Obtain a sample survey to assess opinions and fears of CRC screening processes.

Develop and implement a campaign to educate the population of the state regarding risk factors and screenings for colorectal cancer by 2007.

– Create a network/alliance of providers, programs, and agencies to address education and screening, with the targeted population being potential CRC patients.

– Offer continuing education programs to healthcare providers on CRC, particularly those in underserved or disparate communities.

– Encourage providers to volunteer as "test cases" for record review to monitor their implementation of CRC screenings.

– Develop messages and use educational channels for CRC screening recommendations. (Messages should be available in various languages and should reach both genders, those of different racial, ethnic, and cultural backgrounds and those with varying literacy levels.)

– Dispel myths and fears about appropriate screening and prevention methods.

Evaluate the effectiveness of the program by 2008.

– Obtain a follow-up survey of screening rates of the target population, utilizing a sample survey of providers across the state.

– Obtain a follow-up sample survey to assess opinions and fears of CRC screening processes.

Women's Cancers: Breast Cancer

Scope of the Problem

Breast cancer is the most common cancer diagnosis among American women other than skin cancer and is second only to lung cancer in cancer-related deaths. All women are at risk of developing breast cancer although certain characteristics put some women at greater risk. The most important risk factor for developing breast cancer is increasing age, but other factors include family or personal history of breast cancer, history of benign breast disease, experiencing first-time childbirth at a late age, early age onset of menstruation, and late age onset of menopause. Lifestyle behaviors such as diet, alcohol consumption, and obesity are also associated with higher risk. Men are susceptible to breast cancer as well; however, less than one percent of all breast cancers occur in men.

The National Cancer Institute estimates that roughly one in eight women in the United States (approximately 13.3%) will develop breast cancer during her lifetime. The incidence of breast cancer has increased over the past twenty years, partly due to improved screening rates; however, the mortality rate for all females has decreased. Notably, mortality among African-American females remains greater than mortality among Caucasian females. Encouragingly, the Caucasian mortality rate as well as the

Breast cancer is the most common cancer diagnosis among American women other than skin cancer and is second only to lung cancer in cancer-related deaths.

The National Cancer Institute estimates that roughly one in eight women in the United States will develop breast cancer during her lifetime.

Table 6: U.S. and Tennessee Age-Adjusted Cancer Incidence and Mortality Rates by Race/Ethnicity, Breast Cancer per 100,000, 1997–2001[1,2]

Race	Incidence		Mortality	
	US	TN	US	TN
All women	136.7	115.7	27.0	27.4
Caucasian	137.0	117.0	26.4	25.9
African-American	120.7	104.5	35.4	38.3
Hispanic	82.6	-	17.2	-
Other		74.4		12.3

1. *Source: CDC National Center for Health Statistics, vital statistics data, underlying cause of death, 1996–2000. Death rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population.*

2. *Hyphens represent suppression of rates when there were 75,000 or fewer persons in the denominator or 20 or fewer deaths in the numerator.*

African-American mortality rate in Tennessee falls below their respective mortality rates nationally.

Barriers

Screening by mammography, a low-dose x-ray examination of breast tissue, is the best available method of detecting breast cancer in its early stages. A mammogram is capable of detecting a cancer the size of a grain of rice, long before it could be detected through self-exam. With evidence to suggest that a woman is more likely to have a mammogram following recommendation by her physician, it is very important that physicians not only appreciate this critical role, but also understand screening frequency, options, and related resources. Furthermore, many women are uneducated about positive breast health practices, including screening frequency, breast self-exam, access and availability for mammography, and resources available for assistance in Tennessee. Increasing women's knowledge as well as responsibility for breast health is needed as part of the overall approach to decreasing breast cancer mortality.

Unfortunately, though, while annual examinations and mammography procedures for enhanced diagnosis and treatment have improved the early detection and survival rates of breast cancer, a number of obstructions still prohibit women from taking advantage of these procedures.

In Tennessee, it is estimated that 60,000 women over age 45 are uninsured, resulting in these women rarely seeking available diagnostic procedures.

Furthermore, women who do have insurance coverage choose not to be screened for various other reasons, including false beliefs that because of a lack of cancer incidence in their family, they are not at risk. Other barriers identified:

- Healthcare professionals not recommending/referring these screenings
- Limited access to screenings due to culture, language, and/or geography
- Limited access due to location, hours of operation, and cost
- Limited or inaccurate information about the need for screening as well as the screening procedure
- Misinformation, fear, and religious beliefs

Strategies

If Tennessee is to continue to improve in reducing breast cancer mortality, there must be a sustained, long term commitment to education about the importance of annual screenings, as well as accurate information about treatment alternatives. Financial assistance for screening and treatment is paramount in this effort. Tactics to accomplish these objectives include

- early detection through annual screenings of all women;
- education and adherence to national guidelines regarding self breast exam, clinical breast exam, and mammography;
- targeting underserved populations for education and referral;
- addressing reluctance and fear through education and counseling;
- advocating for healthier lifestyles regarding exercise and dietary habits.

Women's Cancers: Breast Cancer continued

Overall Goal

To reduce breast cancer mortality through increased awareness, detection, diagnosis, and treatment

Objectives:

Educate the public and the professional community about breast cancer disparity by 2008.

– Disseminate information about incidence and mortality rates in various racial and ethnic groups.

– Develop and implement a statewide comprehensive public awareness campaign.

– Promote comprehensive outreach activities across the state to raise awareness about breast health education and screening with an emphasis on minorities and the underserved.

– Increase the number of healthcare providers who recommend mammograms to eligible patients.

Overall Goal:
To reduce breast cancer mortality through increased awareness, detection, diagnosis, and treatment.

Decrease late-stage diagnosis through early detection and treatment by 2008.

– Increase screening rates among women 40 and older especially in underserved communities.

– Increase mobile mammography availability in counties with high mortality rates through Tennessee Women's Health Initiative.

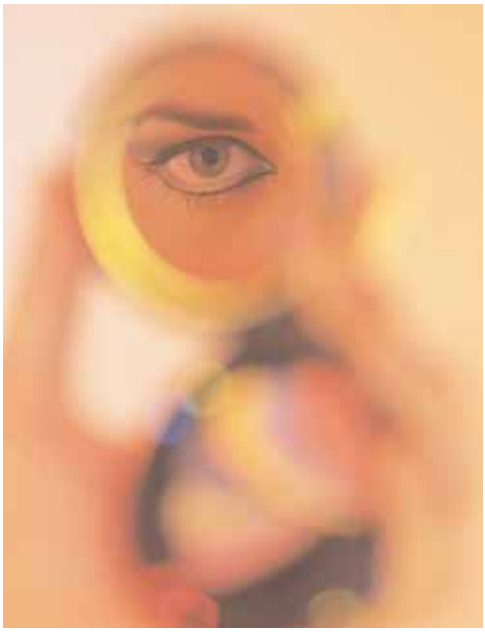
– Develop partnerships to increase the financial resources available for serving under- and uninsured women.

Provide continuing education on breast cancer screening, diagnosis,and treatment emphasizing up-to-date guidelines, recommendations, and technologies.

– Disseminate current information and recommendations in partnership with state professional associations.

– Sponsor professional continuing education programs if indicated.

– Train community educators to teach breast self-exam to others.



Women's Cancers: Cervical Cancer

Scope of the Problem

Nationally, about 16,000 new cases of cervical cancer are diagnosed each year, with roughly 4,800 women dying annually from this disease. The incidence of invasive cervical cancer has decreased significantly over the last 40 years, due in large part to the Pap test and organized early detection programs. When the precursors to cervical cancer are identified by a Pap test, treatment is relatively simple and effective, and the disease does not develop into malignant cancer. However, even with these improvements, cervical cancer remains the third most common gynecological cancer in the United States.

Although all sexually active women are at risk for cervical cancer, the disease is more common among women of low socioeconomic status, those with a history of multiple sex partners or early onset of sexual intercourse, and smokers. The incidence of invasive cervical cancer among young white women has increased recently in the United States. Infection with Human Immunodeficiency Virus (HIV) and certain types of Human Papilloma Virus (HPV) also increase the risk of cervical cancer.

Nationally, about 16,000 new cases of cervical cancer are diagnosed each year, with roughly 4,800 women dying annually from this disease.

Table 7: U.S. and Tennessee Cancer Incidence and Mortality Rates by Race/Ethnicity Uterine Cervix, 1996–2000

Race	Incidence		Mortality	
	US	TN	US	TN
All women		10.0		3.8
Caucasian	9.2	9.1	2.7	3.3
African-American	12.4	16.4	5.9	7.2
Hispanic	16.8	-	3.7	-
Other				

1. Source: CDC National Center for Health Statistics, vital statistics data, underlying cause of death, 1996–2000. Death rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population.

2. Hyphens represent suppression of rates when there were 75,000 or fewer persons in the denominator or 20 or fewer deaths in the numerator.

Barriers

Unfortunately, there is significant disparity in cervical cancer incidence and mortality rates in the United States, with older, indigent, and minority women having the highest mortality rates. Tennessee mirrors the national data in that incidence and mortality in the African-American population is almost twice that of Caucasian women. This variance represents a significant disparity for a cancer that is almost totally preventable.

Despite the availability of early detection and treatment for cervical cancer, a major risk factor for mortality is the lack of regular screening and prompt follow-up for abnormalities. Additional factors relative to cervical cancer control are continued professional education and quality assurance with regards to both the collection of and reading of the pap smear, as well as close monitoring of cervical cancer incidence.

A recent national poll found that more than 50 percent of American women avoid routine gynecological examinations, in large part due to a lack of insurance or language and cultural barriers. In addition, even when insurance coverage is not an issue, women report embarrassment, inconvenience, fear, and the belief that they are not at risk for cervical cancer as reasons for avoiding screening.

Other barriers preventing many women from receiving routine cervical cancer screening include

- not seeking annual gynecological care past childbearing years;
- lack of a designated primary care provider;
- lack of knowledge about cervical cancer and the need for regular screening;
- fear of finding cancer;
- lack of knowledge about Pap tests;
- failure of healthcare professionals to routinely recommend and provide Pap tests for older female patients;
- inadequate follow-up for abnormal Pap smears.

Strategies

Reducing cervical cancer and its precursors requires a continuous public health message and the availability of services for all women. Social and cultural barriers must be addressed so that screening leading to early detection is increased. Strategies to accomplish this include

- focusing on specific populations to increase screening and early detection;
- educating all women about the risk;
- assuring that screening is provided and women who need follow-up do return for care;
- addressing social and cultural issues to increase screening.

Women's Cancers: Cervical Cancer continued

Overall Goal

To reduce cervical cancer mortality in Tennessee through education, screening, and treatment of precancerous conditions

Overall Goal: To reduce cervical cancer mortality in Tennessee through education, screening, and treatment of precancerous conditions.

Objectives:

Educate the public and the professional community about cervical cancer incidence among population groups by December 2006.

– Disseminate incidence and mortality rates of cervical cancer in various ethnic and racial groups.

– Develop and implement a comprehensive public awareness campaign.

– Promote comprehensive outreach activities statewide to raise awareness about cervical cancer, screening and treatment emphasizing underserved communities and high risk communities.

Increase the rate of screening for cervical cancer for women in Tennessee by 2008.

– Increase screening rates among women 40 and older.

– Identify and treat women with pre-cancerous diagnoses to reduce mortality.

– Develop partnerships to increase financial resources available for serving under- and uninsured women.

– Target certain counties and partner with the healthcare community to offer screening to women who do not access healthcare.

Uterine cancer incidence increases with age but can be addressed if diagnosed early.

Women's Cancers: Ovarian and Uterine Cancers

Scope of the Problem

Ovarian cancer ranks fifth in incidence among women in the United States. It is estimated that 25,580 new ovarian cancer cases were diagnosed in the United States in 2004 and that 16,090 deaths did occur. Tennessee's overall incidence rate for ovarian cancer is 12.1 per 100,000, based on age-adjusted rates from 1997 to 2000. Tennessee's incidence and mortality rates for ovarian cancer are lower overall than the national rate although Caucasian women in Tennessee have a higher incidence and mortality rate than other racial groups.

The epidemiology of ovarian cancer is not well understood, but pregnancy, tubal ligation, and the use of oral contraceptives appear to reduce the risk. Factors associated with increased risk of developing ovarian cancer include increased age, women who have never had children, estrogen replacement in postmenopausal women, and women who have had breast cancer or a family history of breast or ovarian cancer. There are no proven methods of prevention for ovarian cancer though removal of the ovaries and fallopian tubes can decrease the risk of ovarian cancer in women with extremely high risk.

Incidence of uterine cancer is similar in Tennessee for all racial groups; mortality presents a very different picture. The state mortality rate is relatively low at 1.8/100,000 and likewise is similar for Caucasian women at 1.6/100,000. African-American women, however, have a mortality rate at twice that of Caucasian women as well as twice that of the state as a whole at 3.8/100,000. Because the incidence in African-Americans is relatively low but the mortality rate is so much higher, one assumption is that these women are diagnosed much later in the progression of the disease; therefore treatment is more likely to be palliative care until the end of life.

Risk factors for uterine cancer include

- obesity,
- history of infertility,
- menopause after age 55,
- polycystic ovary syndrome,
- estrogen without progesterone therapy.

Women's Cancers: Ovarian and Uterine Cancers continued

Prevention and early detection of uterine cancer depends upon a woman's adherence to annual exams throughout her lifetime...

Table 8: US and Tennessee Age-Adjusted Cancer Incidence and Mortality Rates Ovaries, Tennessee 1997–2000

Race	Incidence		Mortality	
	US	TN	US	TN
All women	15.8	12.1	16.8	9.1
Caucasian		12.6		9.3
African-American		9.2		7.6
Other		12.1		9.3

1. *Source: CDC National Center for Health Statistics, vital statistics data, underlying cause of death, 1996–2000.Death rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population.*

2. *Hyphens represent suppression of rates when there were 75,000 or fewer persons in the denominator or 20 or fewer deaths in the numerator.*

Table 9: U.S. and Tennessee Age-Adjusted Cancer Incidence and Mortality Rates Corpus Uteri, Tennessee 1997–2000

Race	Incidence		Mortality	
	US	TN	US	TN
All Females	22.8	17.3	4.1	1.8
Caucasian		17.7		1.6
African-American		14.6		3.8
Other		15.3		

1. *Source: CDC National Center for Health Statistics, vital statistics data, underlying cause of death, 1996–2000. Death rates are per 100,000 and are age-adjusted to the 2000 U.S. standard population.*

2. *Hyphens represent suppression of rates when there were 75,000 or fewer persons in the denominator or 20 or fewer deaths in the numerator.*

Certain medical conditions are also tied to risk for uterine cancer. These include

– high blood pressure,

– diabetes,

– cancer of the ovaries or breast and colorectal cancer,

– past treatment with tamoxifen,

– family history of uterine cancer.

Symptoms occur most typically after menopause and are rather nonspecific, including vaginal bleeding, difficult urination, pain in the pelvic area, and pain during intercourse. A physician should be contacted immediately to check symptoms.

Prevention and early detection of uterine cancer depends upon a woman's adherence to annual exams throughout her lifetime, including a pelvic exam and Pap test. Uterine cancer incidence increases with age but can be addressed if diagnosed early.

Barriers

As noted with other cancers, lack of access to regular healthcare is a barrier to early detection of this cancer. The lack of specific symptoms and difficulty in diagnosis also compound the problem. For women who have suspicious symptoms, testing is available for uterine cancer; therefore encouraging women to follow through is critical. Screening for ovarian cancer, however, is problematic, partly because there is insufficient evidence to conclude that these screenings would result in decreased mortality.

Strategies

Reducing ovarian and uterine cancer requires a continuous public health message and the availability of services for all women.

- Educate all women about the risk and symptoms.

- Assure that healthcare is provided when symptoms are present.

Women's Cancers: Ovarian and Uterine Cancers continued

Overall Goal

To educate the public and the professional community about incidence and mortality from ovarian and uterine cancers in Tennessee

Objectives

Determine incidence and mortality rate of ovarian and uterine cancer in the general populations and among various racial and ethnic groups and disseminate information by 2007.

Overall Goal: To educate the public and the professional community about incidence and mortality from ovarian and uterine cancers in Tennessee.

Increase educational opportunities for the public and the professional community related to prevention, detection, and treatment of ovarian and uterine cancer by 2008.

– Develop educational materials at various reading levels and languages that instruct readers about appropriate health behaviors and early detection methods.

– Provide community education for women about these cancers.

– Disseminate new guidelines and recommendations for screening, diagnosis, and treatment as they become available.

Encourage research efforts to increase the body of knowledge available for ovarian and uterine cancer by 2008.

Melanoma and Skin Cancer

Scope of the Problem

Cutaneous malignant melanoma is the most serious form of skin cancer as well as the most likely to metastasize, causing 79% of skin cancer deaths. The American Cancer Society estimates that 55,100 new melanoma cases were diagnosed in the United States during 2004, with 1,250 of these cases occurring in Tennessee. Furthermore, the incidence of melanoma cases is expected to increase in the U.S. About 7,910 people in the United States were expected to die with melanoma during 2004, and at this time, no curative treatment for advanced metastasis melanoma exists.

About 7,910 people in the United States were expected to die with melanoma during 2004, and at this time, no curative treatment for advanced metastasis melanoma exists.

Risks for developing cutaneous malignant melanoma and other skin cancers are recognized to include behavioral, environmental, and familial factors. Indicators of ultraviolet light exposure, such as sunburns experienced in childhood and cumulative sun exposure throughout life, elevate the risk for developing melanoma and other skin cancers. People with fair complexions, light colored eyes and hair, and skin sensitive to sun are at risk for developing melanoma. A personal or family history of melanoma, history of other forms of skin cancer, advancing age, and immunosuppression also increase the risk for developing melanoma. The presence of a changing mole, numerous moles, dysplastic moles, and congenital moles increase the risk for melanoma.

The majority of melanomas occur in whites and males, although African Americans, Hispanics, and other racial and ethnic peoples do sometimes have melanoma. The incidence of melanoma and skin cancers increases with age, and there may be a disproportionate number of advanced stage melanomas in the elderly. This may reflect decreased awareness, inadequate screening, and decreased access to medical care in the elderly. Low socioeconomic groups have less access to dermatologic care in many communities, and even when available, such care is often so expensive that it becomes financially prohibitive.

Prevention, screening, and early detection programs for melanoma and other skin cancers offer the best hope for survival. Patients detect about 50% of melanomas, doctors detect about

Programs that create opportunities for earlier, professional screening offer promise for melanoma control in Tennessee.

Melanoma and Skin Cancer continued

25%, and family members or others detect about 25%. Melanomas detected by physicians tend to be earlier lesions. Programs that create opportunities for earlier, professional screening offer promise for melanoma control in Tennessee.

Barriers

- The most notable limitation is identifying the full scope of the problem in Tennessee.

- Although melanoma is a reportable condition in Tennessee, an effective reporting mechanism is not in place.

- Dermatologists and primary care physicians in non-hospital settings diagnose and treat most primary cutaneous melanomas. These patients may never visit a hospital for their condition and are not counted in tumor registries. The end result is a lack of accurate data on melanoma and skin cancer in Tennessee.

Strategies

- Preventive efforts center on educational programs that focus on risk factor awareness and protective measures which may reduce the risk. Sponsorship of programs for youth and adults that highlight ways to protect skin from ultraviolet light, such as wearing appropriate clothing, using sunglasses, applying sunscreen, and avoiding artificial sources of ultraviolet light in tanning salons, are examples of protective measures.

- Collaboration with Tennessee's public school system can strengthen awareness by providing resources regarding sun safety, and advocating for the development and integratation of information into school behaviors, such as using sunscreen and providing shaded areas on school property.

- The use of illustrative teaching materials can inform the public (literate and illiterate) of the appearance of suspicious lesions that should prompt medical attention.

- Better surveillance documentation, information, screening, and intervention for citizens, particularly the underserved and at-risk populations, will decrease critical areas of burden in Tennessee.

Overall Goal

To decrease the incidence of melanoma/skin cancer and increase education regarding prevention and treatment

Objectives:

Increase the reported number of melanoma cases to Cancer Registry in the State of Tennessee by 2006.

– Choose and support the use of software that enables ease of reporting to Cancer Registry.

– Educate dermatologists and primary care physicians on the process of reporting to Cancer Registry.

– Identify disparate populations.

– Design a report format and disseminate surveillance information in a timely manner to those participating in the collection of data and other interested groups.

Increase the number of educational programs offered to the public about the risks, early detection, and prevention of melanoma/skin cancer by 2007.

– Develop partnerships with agencies that have established programs on awareness of melanoma/skin cancer risks, prevention, and early detection.

– Promote through the public school system and the media.

– Augment public health education through utilization of evidence-based programs, risk awareness (i.e. ABCDs of early melanoma detection programs) and media campaigns.

– Educate the public on the increased risk of melanoma/skin cancer because of the use of tanning beds.

Melanoma and Skin Cancer continued

Overall Goal:
To decrease the incidence of melanoma/skin cancer and increase education regarding prevention and treatment

Increase the number of screenings for melanoma/skin cancer by 2008.

– Collaborate with state/local organizations and community agencies to participate in free screenings.

– Survey state medical and nursing schools for presence and accuracy of melanoma prevention, detection, and treatment information offered in healthcare programs.

– Offer in-services for nursing home workers, family members of nursing home patients, and senior centers for education on identifying skin cancer.

Increase the number of policies (state and county) that protect citizens of Tennessee from ultraviolet radiation by 2008.

– Enforce compliance of current law and impose financial penalties on tanning bed operators.

– Promote proper licensure and regulation of tanning bed owners/operators.

– Promote legislation that strengthens or develops skin cancer prevention curriculum in the public schools.

Cancers Affecting Children

Scope of the Problem

In 2001, approximately 8,600 children in the United States under age 15 were diagnosed with cancer, and approximately 1,500 children died from the disease. Although cancer is the leading cause of death by disease for children under 15, it remains relatively rare. Leukemias and central nervous system (CNS) tumors account for more than half of all new cases. Approximately one-third of all childhood cancers are leukemia.

Rates of invasive cancer in children in the U.S. have risen slightly over the past 20 years, from 11.4 per 100,000 in 1975 to 15.2 per 100,000 in 1998. During the same time period, mortality has declined and survival rates have increased. In 1974 through 1976, the five-year survival rate for all childhood cancers combined was 55.7%. In 1992 through 1997, the survival rate increased to 77.1%. This change is due primarily to treatment advances leading to cure or long-term remission. These treatment advances have mostly been achieved because 70% of pediatric cancer patients participate in clinical trials (compared to only 3% of adult patients).

In 2001, approximately 8,600 children in the United States under age 15 were diagnosed with cancer, and approximately 1,500 children died from the disease.

Table 10: Top Ten Childhood Cancers in Tennessee 1997–2000

Site	Number of Cases	Percent of Total Cases
Brain and CNS	140	18.3
Acute Lymphocytic Leukemia	124	16.2
Hodgkins Disease	61	8.0
Non-Hodgkins Lymphoma	55	7.2
Soft Tissue	52	6.8
Bones and Joints	41	5.4
Kidney	41	5.4
Testis	36	4.7
Acute Myeloid Leukemia	29	3.8
Thyroid Gland	26	3.4

Source: Tennessee Caner Registry: Age-Adjusted Incidence Rate (1997–2000)

Childhood cancers differ from adult cancers in prevalence, diagnosis, risk factors, types of cancers, treatment, and prognosis.

Cancers Affecting Children continued

The incidence data from Tennessee is consistent with national trends. However, data in the Tennessee Cancer Registry is approximately only 80% complete and therefore should be interpreted with caution.
A total of 764 cases of invasive cancer in children were reported to the Tennessee Cancer Registry from 1997 to 2000, for an age-specific rate of 12.5 per 100,000. The rate for females was 11.4 per 100,000 and the rate for males was 13.5 per 100,000.

Acute lymphatic leukemia (ALL) accounted for almost one-third of all cases in the 0-4 age group. The percentage of acute lymphatic leukemia cases in the other age groups was much lower (20.1% in the 5-9 age group, 13.0% in the 10-14 age group, and 6.0% in the 15-19 age group). ALL and acute myelogenous leukemia (AML) combined make leukemia the most common childhood cancer in Tennessee.

From 1997 to 2000 there were fewer than five cases of chronic myeloid leukemia (CML) and fewer than five cases of chronic lymphocytic leukemia (CLL) reported to the cancer registry. Brain and CNS tumors accounted for 17.5% of all cases for the 0-4 age group. In the 5-9 and 10-14 year age groups, brain and CNS tumors accounted for 26% and 24% respectively. Brain and CNS tumors accounted for 11.3% of all cases in the 15-19 year age group. An age-specific rate of 2.3 per 100,000 was reported for the 15-19 age group. The rate was higher for males (2.5 per 100,000) than for females (1.5 per 100,000).

Barriers

- While cancer in children is rare, cancer is the leading cause of death by disease among children in the United States under the age of 15.

- Childhood cancers differ from adult cancers in prevalence, diagnosis, risk factors, types of cancers, treatment, and prognosis.

- Although childhood cancers account for only 0.3% of all cancers that are diagnosed, cancer is usually more advanced in children at the time of diagnosis, because early detection and screening methods are not routinely used and symptoms often mimic other childhood diseases.

- The causes of most childhood cancers are largely unknown and cannot be attributed to lifestyle risk factors such as tobacco or alcohol use; therefore, no prevention methods currently exist.

- Childhood cancers tend to occur at different sites from adult cancers. The most common sites are blood and bone marrow, lymph nodes, brain, nervous system, kidneys, and soft tissue.

- Children are more likely to receive cancer treatment in specialized children's hospitals, university medical centers, and cancer centers because children's cancer is rare and because of the opportunity to participate in established clinical trials. While primary care providers and cancer specialists treat most adult cancer patients in their local communities, children often have to travel for care, which places additional stress on family resources.

- Childhood cancer survivors essentially "grow up" coming to terms with a cancer diagnosis and the effects of treatment and are profoundly affected by the repercussions of a disease they've known most of their lives.

- Childhood cancer affects the entire family, and family members experience a great deal of disruption as a result of the illness. Psychosocial support and education are essential to the care of the child/adolescent with cancer.

- The child's developmental level as well as that of siblings will influence his or her response to the illness. Assessment and concern about psychosocial health is necessary at all phases of treatment and survivorship.

Strategies

- Families need referral and access to appropriate treatment facilities and care. Education, support, and resources are needed. Cancer care involves physical, psychological, social, spiritual, and financial concerns at the time of diagnosis and throughout the treatment process.

- Access to the appropriate treatment facility, appropriate treatment, and adjusting to the diagnosis of a catastrophic disease must be universal. Additional concerns involve dental care, fertility issues, and creating complete documentation of treatment that will be necessary for care later in life.

- Psychosocial issues to be addressed include emotional status, isolation, developmental impact, school and learning, discrimination, family dynamics, finances, and parental work issues.

- The transition back to life as a "cancer survivor" is an individual experience for each child/adolescent and his or her family. Some families are relieved that they do not have to return to the medical/treatment facility as frequently; for others, this loss of regular contact with medical support, as well as with other families who are enduring similar struggles, can be stressful.

The impact of a child's cancer diagnosis does not end when treatment is over. Although the end of treatment can signal triumph over the illness, the childhood cancer patient has endured many medical procedures and difficult periods of illness during diagnosis and treatment.

Cancers Affecting Children continued

The childhood cancer patient needs ongoing, routine medical follow-up and social/-psychological attention or physical rehabilitation to address stress, monitor long-term effects, and to develop coping skills for continuing on with life, growing up, gaining independence, and finding a "new normal." Issues in the transition phase from cancer treatment include follow-up care and appropriate screening for cancer secondary to treatment.

It is important to be aware of early detection methods for multi-primary and secondary cancers and to maintain good records of tests and treatments. Follow-up appointments must be maintained, and that may involve long distance travel. Emotional aspects of the transition phase may include feelings of loss, fear of recurrence of disease, developmental issues of dependence, and readjustment to school, and these aspects may require ongoing, lifelong support.

The impact of a child's cancer diagnosis does not end when treatment is over. Although the end of treatment can signal triumph over the illness, the childhood cancer patient has endured many medical procedures and difficult periods of illness during diagnosis and treatment. Both physical and emotional complications may arise immediately following treatment or many years later. For these reasons, it is imperative that childhood cancer survivors receive appropriate follow-up care in a cancer center for long-term effects of treatment that minimize disability, pain, and psychosocial distress. Survivors face numerous physical, psychological, social, spiritual, and financial issues at diagnosis, during treatment, and for the remaining years of their lives.

Some of the issues involved in living beyond cancer include transitioning adolescents and young adults to appropriate care in the local community and to appropriate follow-up at a cancer center for late effects. Employment concerns center around disclosure, re-entry to the workplace, disability rights, discrimination, and healthcare insurance. Social and psychological concerns involve change in relationships, emotional problems such as depression, and concern about change in physical status and fertility.

Accurate information and self-advocacy are necessary components of survivorship.

Overall Goal

Advocate for children with cancer and improve their care at the time of diagnosis and treatment

Objectives:

Advocate for children with cancer and improve their care at the time of diagnosis and treatment by 2007.

– Assure that every child/adolescent with childhood cancer receives appropriate treatment and care in a cancer center.

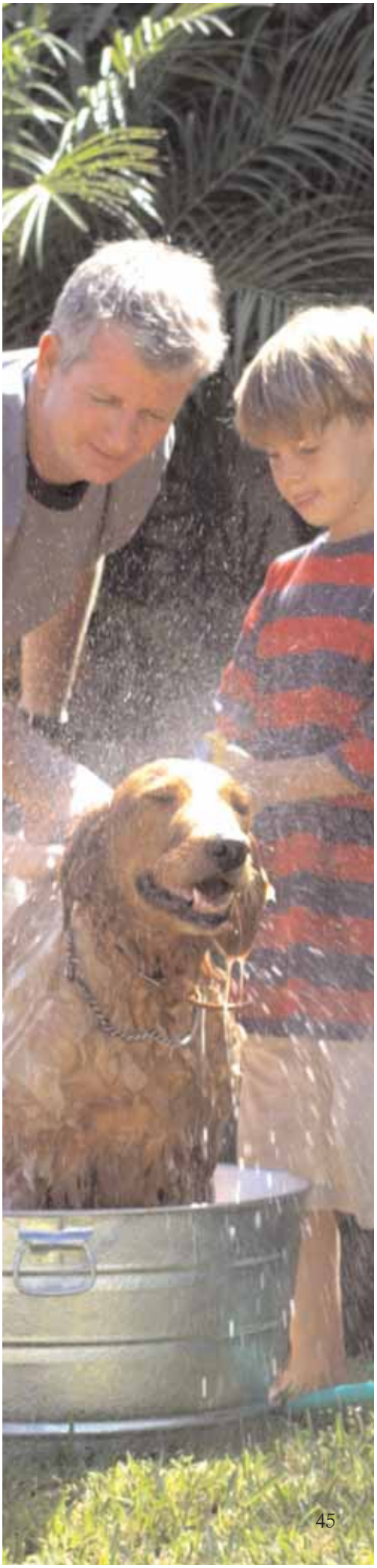
– Advocate for policies, laws, and practices that confirm every child/adolescent's access to treatment and care.

– Increase knowledge among patients and their families, medical providers, and the public regarding the unique aspects of childhood cancers.

– Assist cancer patients and their families in accessing family, peer, community, and financial support they need for coping with their disease.

– Assure that every child facing cancer obtains resources necessary to promote effective treatment and quality of life.

– Promote research to advance cancer treatments that will lead to improved outcome and quality of life for children/adolescents with cancer.



Cancers Affecting Children continued

Overall Goal: Advocate for children with cancer and improve their care at the time of diagnosis and treatment

Improve the quality of life of childhood cancer survivors through education, resources, and research by 2008.

– Establish and make available an easily accessible, statewide inventory of financial, psychosocial, spiritual, educational and material resources for childhood cancer patients, families, and caregivers.

– Educate primary healthcare providers regarding possible long-term side effects of childhood cancer treatments.

– Increase advocacy for childhood cancer on issues related to long-term survivorship, education, employment, and insurance coverage.

– Optimize the use of known cancer resources for long-term survivors.

– Increase the number and effectiveness of resources for survivors through cooperative efforts between programs, agencies, and institutions.

– Encourage and support research projects in the area of childhood cancer survivorship.

– Increase funding sources for research in long-term side effects of childhood cancer and treatment.

– Collect data on the number of survivors of childhood cancer in Tennessee.

Pervasive Issues of Cancer Control

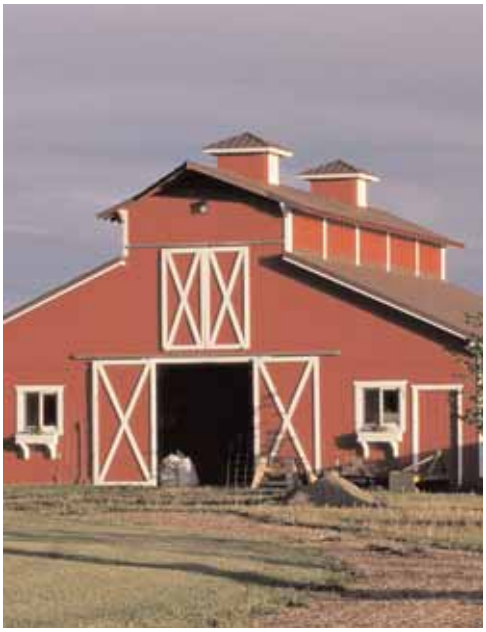
An estimated 563,700 Americans of all racial and ethnic groups were expected to die of cancer in 2004, resulting in the Tennessee Cancer Control Plan addressing the disturbing consequences of health disparity; the challenges of health literacy; the impact of lifestyle and environment; the unrelenting need for compassionate, quality care of the survivor; and the demand for respect and dignity afforded a person at the end of his/her life. While each issue is discussed separately, the needs are reflected in all previous chapters.

An estimated 563,700 Americans of all racial and ethnic groups were expected to die of cancer in 2004.

Health Disparities

A close look at cancer rates for racial and ethnic groups revealed some significant differences described as health disparities. National Institutes of Health define health disparities as "differences in the incidence, prevalence, mortality, and burden of cancer and related adverse health conditions that exist among specific population groups in the United States. Gender, age, ethnicity, education, income, social class, disability, geographic location, and sexual orientation may characterize these population groups." For example, African-American men have higher overall cancer incidence, and African-American men and women have a higher mortality rate compared to other groups. Lower survival rates for minorities for the top four cancer sites indicate a diagnosis at more advanced stages.

Differences in cancer incidence and mortality rates among racial and ethnic groups can also be attributed to factors associated with social class rather than ethnicity alone. According to the American Cancer Society, individuals of all ethnic backgrounds who are poor, lack health insurance, or have inadequate access to quality cancer treatment experience higher cancer incidence, higher mortality rates, and poorer survival rates. Socioeconomic status (SES) appears to play a major role in the differences in risk factors, screening prevalence, incidence, and mortality rates among racial and ethnic minorities. Moreover, studies have found that SES, more so than race, predicts the likelihood of a group's access to education, health insurance,



Pervasive Issues of Cancer Control continued

income level, and living conditions. Each factor is associated with a person's probability of developing and surviving cancer. The U.S. Census Bureau identified 25.7% of the population of Tennessee as living below 150% of the poverty level in 2004. With a comparable national level of 21.7%, the startling fact highlights the need for Tennessee to address the consequences of SES on the unequal burden of cancer.

Limited health literacy affects more than just the uneducated and poor.

Disparity issues plague quality of life (QOL) and end of life (EOL) care. Racial and ethnic groups are underrepresented among cancer survivors. The national five-year relative survival rate for African-Americans is 53% as opposed to 64% for whites. In addition, African-Americans have a 10-25% lower survival rate when individual cancer sites are reviewed. Economic complexities and attitudinal issues found in lower socioeconomic populations and racial/ethnic minorities underscore lack of access to proper pain management programs and to hospice services. Cultural disparity exists in the attitudes of patients, survivors, family, and healthcare providers when faced with issues of death and dying. The perception of the needs for elderly and rural populations regarding QOL/EOL in Tennessee need further description.

The reduction of health disparities throughout Tennessee underline every aspect of the Tennessee Cancer Control Plan. By working together to identify disparities, identifying ways to reach and educate affected groups, we can collectively make a difference and lessen the gap in cancer health disparities.

Health Literacy

Literacy is defined in the National Literacy Act of 1991 as "an individual's ability to read, write, and speak in English and compute and solve problems at levels of proficiency necessary to function on the job and in society, to achieve one's goals, and to develop one's knowledge and potential." Health literacy encompasses the skills necessary to perform basic reading and numerical tasks for functioning in the healthcare environment and furthermore acting on health care information. Low literacy adults lack the basic skills that provide a foundation to function successfully. The National Institute for Literacy estimates that 53% of the population older than 16 years of age in Tennessee is classified as low literacy.

The Journal of American Medical Association reported in 1999 that 46% of American adults are functionally illiterate when it comes to dealing with the healthcare system. Health literacy is increasingly recognized as a critical factor affecting communication across the continuum of cancer care. Patients with low health literacy have difficulties with written and oral communication which may, in turn, limit their understanding of cancer screening, symptoms, treatment options, and their understanding of informed consent for procedures and clinical trials, thus adversely affecting their treatment.

Limited health literacy affects more than just the uneducated and poor. Individuals are increasingly responsible for managing their own healthcare. At some point, most individuals will encounter health information they cannot understand. Even a well-educated person with strong reading and writing skills may have trouble comprehending health information or instructions regarding consent forms, informational material for a drug or procedure, advertising for medical supplies, or using medical tools. Studies indicate that health-related materials cannot be understood by most of the people for whom they are intended.

Limited health literacy is not a problem exclusive to patients. Healthcare providers frequently need to communicate with patients who have a different language and cultural background. Differing cultural and educational backgrounds between a patient and a healthcare provider may also contribute to problems in the patient's comprehension.

Health communication is one tool for promoting or improving health. To gain knowledge and make changes toward healthier behaviors, an individual must be able to understand and assimilate health-related information. Education must be a key component to any comprehensive plan for cancer control.

Pervasive Issues of Cancer Control continued

Lifestyle and Environment

The relationships among individuals, their lifestyles, and the environment is interwoven with our state of health. Adoption of healthy lifestyle behaviors and awareness of the preservation of a safe environment enhance healthy cancer prevention behaviors. Risky lifestyle behaviors and hazardous environmental exposures promote cancer cell growth and lead to life-changing illnesses. However, the same interrelationships among diet, physical activity, and the environment may contribute to the inhibition of cancer. The focus of primary prevention for cancers related to our lifestyle and environment centers on eating a healthy diet, engaging in physical activity, and limiting exposure to environmental contaminants.

Scientific evidence suggests diet may be of great importance in cancer prevention, for it has been proposed as a contributing factor in 20% to 70% of cancer deaths and is a modifiable risk factor.

Scientific evidence suggests diet may be of great importance in cancer prevention, for it has been proposed as a contributing factor in 20% to 70% of cancer deaths and is a modifiable risk factor. Diets high in fat have been linked to increased risk of various cancers, particularly breast, colon, prostate, and endometrium and possibly pancreas and ovarian cancers. One of the most consistent dietary findings with regard to cancer is the protective effect of fruits and vegetables. The percentage of Tennesseans who consume less than five servings of fruits and vegetables per day is 77.8%, while only 38.8% of Tennesseans on average consume fruits and vegetables three or four times per day. The role of several micronutrients in cancer prevention, including beta-carotene, vitamin A, vitamin E, and selenium, has been found to be associated with lower cancer risk in many studies. In addition, phytoestrogens present in soybeans, high fiber, and calcium intake have been associated with a protective effect.

Maintaining a lean body weight and engaging in regular, moderate-to-intense physical activity can reduce cancer incidence. Increased physical activity has consistently been found to protect against prostate cancer, precancerous colon polyps, and colon cancers, as well as breast cancer. The close inter-relationship of physical activity with obesity and diet, two other factors associated with many cancers, also makes their role in relation to cancer risk important to assess. Only 36% of Tennessee adults report that they engage in physical activity. The prevalence of no-leisure time physical activity for Tennesseans is 66.4%. Healthy choices in our daily diet and increased physical activity must be encouraged in Tennessee in an

effort to increase the available protective benefits while decreasing the burden of cancer.

Studies show that approximately 3% to 10% of cancers are related to known environmental carcinogens. A number of these carcinogens exist in the air we breathe and are found in surface and ground water, in soil, at workplace settings, and within our homes. The U.S. Environmental Protection Agency (EPA) maintains a list of known or suspected environmental carcinogens, which include agents such as arsenic, asbestos, benzene, beryllium, cadmium, nickel, radon, and vinyl chloride. These agents are associated with cancers of the liver, bladder, lung, mesothelioma, skin, and leukemia and lymphoma. While industries are required to report the use and production of these agents to EPA for regulation purposes, they are not routinely monitored by the state of Tennessee. Exposure to environmental contaminants and the risk of cancer has become an urgent health issue that is manifested by reports of suspected cancer clusters in the workplace and communities. However, because known and suspected environmental carcinogens are not routinely monitored as they relate to the incidence and mortality of cancer, the state of Tennessee has no systematic way to assess reports of cancer clusters. Mechanisms to address the monitoring of environmental cancers and the investigation of suspected cancer clusters are needed in Tennessee.

Quality of Life/End of Life

Estimates among cancer survivors indicate that in 2001, there were 9.8 million individuals who had prevailed in their fight against cancer. The current trend indicates surviving cancer past five years is increasing, with the relative survival rate for all adult cancers at 64%. However, even with the percentage of survivors increasing from 51% to 64% in the last 30 years, this does not alter the fact that every person diagnosed with cancer struggles to maintain a relative quality of life from diagnosis through treatment. Sadly, for others, it also means confronting mortality and finding comfort in the remainder of their lives.

Quality of Life (QOL) is the subjective experience of individual cancer survivors and all those affected, including family, friends, and caregivers, throughout the remainder of their lives. This involvement includes physical, psychological, social, and spiritual well-being resulting from a cancer diagnosis and subsequent treatment. End of Life (EOL) is a broad term that refers to the physical, psychosocial,

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Pervasive Issues of Cancer Control continued

and spiritual care given in the advanced or terminal stages of illness. For the persons and caregivers confronted with cancer, the issues of QOL and EOL are multifaceted. The goal of those touched by cancer is to minimize the effects experienced during and after treatment. The National Cancer Institute's Office of Cancer Survivorship focuses its efforts on eight aspects of cancer to paint a full picture of the burden wrought by the disease. These aspects include physical effects, psychosocial concerns, health disparities, family issues, financial burden, cancer communication, intervention research, and instrument development. If simply taking into account the physical and financial aspects of cancer, it is clear that the disease has a staggering outcome on individuals and families in Tennessee. However, when additional aspects are brought into the discussion, the scope and extent of the consequences increase exponentially.

If simply taking into account the physical and financial aspects of cancer, it is clear that the disease has a staggering outcome on individuals and families in Tennessee. However, when additional aspects are brought into the discussion, the scope and extent of the consequences increase exponentially.

In 2003, the *Trust for America's Health* report allotted Tennessee a grade of "D" for an inadequate cancer tracking system. Estimates suggest that in Tennessee alone, 30,000 new cases of cancer were diagnosed in 2004. However, as a result of inadequate tracking, any survivorship figures gathered for Tennessee rely solely on data gleaned from other studies. Unfortunately, as a result of poor tracking, Tennessee is missing an opportunity to better understand and develop approaches for treatment and support services for QOL.

In *Means to a Better End: Report on Dying in America Today*, Tennessee was assigned a grade of "D" in the area of hospice use. In the last year of life, less than 25% used hospice care as an aid in the process of dying, and when it was used, it was for a median of 15 to 30 days prior to death. Reports of persistent pain (35-45%) in nursing homes earned Tennessee a "C." Equally evaluated and given a grade of "D" was the quality of the laws concerning advanced directives. Tennessee received grades of "C" and "D," respectively, for the percentage of physicians and nurses who were certified in palliative care in 2000. Properly prepared healthcare providers are necessary to address this inadequacy. Preparation in communication with the dying, symptoms management, and bridging the barriers of adequate cultural care have been noted as some of the gaps missing in medical and nursing education. Availability of resources would improve access to quality care and balance the burden of cancer not only for high-risk groups, but for all cancer survivors in Tennessee.

Overall Goal

To reduce consequences of common issues of cancer control among Tennesseans

Objectives:

To identify health disparities in the state of Tennessee by 2008.

- Survey risk factors, screening prevalence, incidence, and mortality rates for gender, age, ethnicity, education, income, social class, disability, geographic location, and sexual orientation health disparity groups in the four major cancer sites.
- Clarify disparities related to risky lifestyle choices and exposure to environmental contaminants.
- Clarify the perceived need for quality of life and end of life care and the use of hospice by SES, elderly, and rural survivors of cancer.
- Develop culturally sensitive, educational materials to address the needs of identified health disparity groups.

To reduce health literacy barriers that impair communication in discussions about risks and benefits of cancer screening, treatment options, and informed consent by 2008.

- Develop effective cancer information brochures and educational programs regarding the major cancer types through existing health literacy methods and models.
- Distribute these materials to the appropriate community constituents.

To decrease lifestyle and environmental cancer risk factors among Tennesseans by 2008.

- Identify, establish and support existing partnerships with organizations and community-based programs that promote weight loss, healthy dietary choices, and physical activity.

Overall Goal:
To reduce consequences of common issues of cancer control among Tennesseans

Support and encourage research that affects healthy lifestyle choices, diet, and physical activity and impacts environmental carcinogens.

Pervasive Issues of Cancer Control continued

– Develop and disseminate educational materials to wellness programs and healthcare providers on how weight loss, healthy dietary choices, and physical activity are linked to preventing certain cancers.

– Support and encourage research that affects healthy lifestyle choices, diet, and physical activity and impacts environmental carcinogens.

– Establish and develop partnerships with environmental health organizations, community-based programs, and state government to develop mechanisms to track environmental carcinogens and investigate suspected cancer clusters.

– Develop and distribute appropriate educational materials that will increase public awareness concerning exposure to environmental carcinogens.

To improve the quality of life and end of life care for cancer patients in the state of Tennessee by the year 2008.

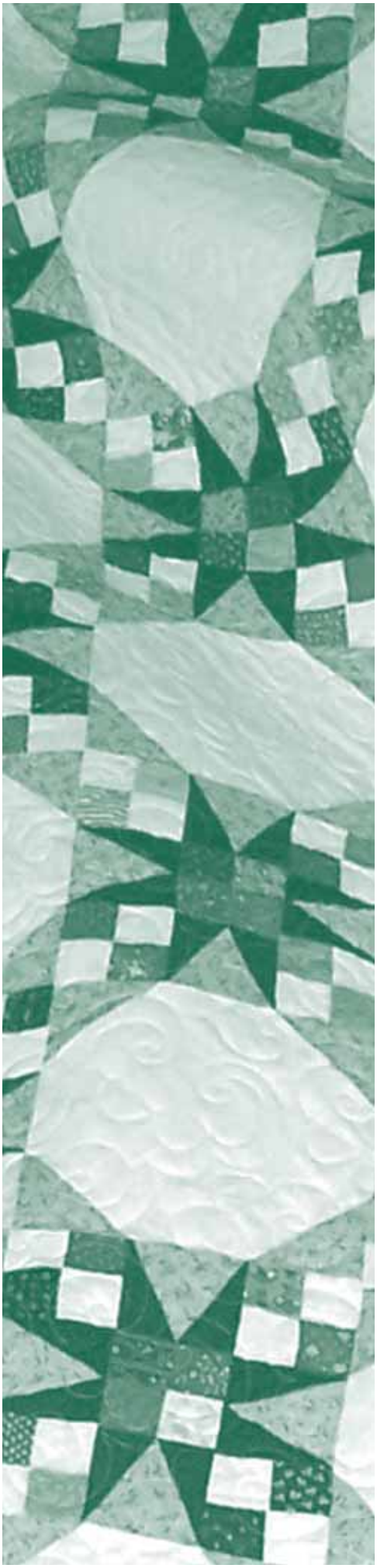
– Increase the awareness, availability, and accessibility of information and support to address the physical needs of the patient with cancer throughout survivorship.

– Collect informational material to identify available and accessible physical, psychological, social, spiritual support, and financial resources that address the needs of the survivor.

– Publish and disseminate a resource guide communicating information regarding cancer support services to survivors and healthcare providers via paper and electronic media.

– Collaborate with Tennessee End of Life Coalition to support legislation that addresses advanced directives and pain management programs in the state.

– Increase educational opportunities in schools of medicine and nursing with a focus on palliative care and end of life care.



Call to Action

The impact of the burden of cancer on the people of Tennessee cannot be overstated. Over the course of the year spent compiling this Tennessee Cancer Control Plan, over 13,000 Tennesseans died of cancer. In that same amount of time, an estimated 31,000 Tennesseans received the life-changing news, "You have cancer." Behind those stark statistics of death and diagnosis, there are people whose unique experiences of fear and loss are too numerous to count and too complex to describe.

In order to reduce the burden of cancer and improve the quality of life of cancer survivors and the people who care for them, we must take the steps necessary to bring about change. Some of the steps required seem to go straightforward along a well-traveled path. Others may appear to follow a more rigorous, perhaps even uncharted, course. Whatever the case may be, the common requirement is movement. If we stay as we are, people will continue to die. However, if we move in another direction, we can bring change to Tennessee. As advocates, all Tennesseans are called to participate in the Comprehensive Cancer Control Plan. The main goal is **"To reduce the cancer burden in the State of Tennessee."** There are four main areas of concern subsumed within this overriding goal:

- Eliminating all population disparities in the cancer burden
- Creating additional access to prevention, detection, and treatment mechanisms
- Development of resources, including educational materials aimed at a variety of population groups, partnerships with many agencies and groups, and funding sources to assist in all other goals
- Expansion of research efforts on cancer and cancer related issues

The above four areas offer rich opportunities for change through collaboration and implementation on the local, regional, and state levels. The time to act is now. One way to start is to join the Tennessee Cancer Control Coalition by calling 1-800-547-3558. Action can make a difference in the lives of Tennesseans, both today and in the future.

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Appendix A

Table 1. Total Cancer Cases and Age-Adjusted[1] Cancer Incidence Rates[2] By Primary Site, Tennessee, 1997-2000, All Races

Primary Site	Total Cases		
	Number of Cases	Age-Adj. Rate	Std. Error
All Cancer	88,135	391.8	1.32
Lip	209	0.9	0.06
Tongue	480	2.1	0.10
Major Salivary Gland	255	1.1	0.07
Floor of Mouth	145	0.6	0.05
Gum and Other Mouth	359	1.6	0.08
Nasopharynx	105	0.5	0.05
Oropharynx	87	0.4	0.04
Hypopharynx	163	0.7	0.06
Esophagus	901	4.0	0.13
Stomach	1,219	5.5	0.16
Small Intestine	288	1.3	0.08
Colon excl. Rectum	7,863	35.2	0.40
Rectum and Rectosigmoid	2,783	12.4	0.24
Anus	248	1.1	0.07
Liver	537	2.4	0.10
Gallbladder	171	0.8	0.06
Pancreas	1,795	8.0	0.19
Larynx	1,145	5.0	0.15
Lung and Bronchus	15,944	70.2	0.56
Bones and Joints	172	0.8	0.06
Soft Tissue	542	2.4	0.10
Melanomas	2,179	9.8	0.21
Breast	14,544	65.2	0.54
Cervix#	1,187	10.0	0.29
Corpus Uteri#	2,200	17.3	0.37
Uterus NOS#	107	0.8	0.08
Ovary#	1,520	12.1	0.31
Prostate#	10,461	109.5	1.09
Testis#	452	4.3	0.20
Penis#	87	0.9	0.10
Bladder	3,552	15.8	0.27
Kidney	2,441	10.8	0.22
Ureter	127	0.6	0.05
Eye	149	0.6	0.05
Brain	1,280	5.7	0.16
Thyroid Gland	1,293	5.9	0.16
Hodgkins Disease	536	2.4	0.11
Non-Hodgkins Lymphoma	3,477	15.6	0.26
Multiple Myeloma	981	4.4	0.14
Acute Lymphocytic	239	1.1	0.07
Chronic Lymphocytic	436	1.9	0.09
Acute Myeloid	558	2.5	0.11
Chronic Myeloid	202	0.9	0.06
Other Leukemias	282	1.3	0.08
Other Sites	4,434	19.8	0.30
Breast in situ (not included in All Cancer)	2,589	11.5	0.23

Source: Tennessee Cancer Registry. Data are approximately 80% complete. Interpret with caution.

[1] Rates are per 100,000 and are age-adjusted using the 2000 U.S. population standard.

[2] Counts and rates are suppressed when fewer than 6 cases were reported.

#Rates are computed based on sex-specific population estimates.

Table 2. Total Cancer Cases and Age-Adjusted[1] Cancer Incidence Rates[2] By Primary Site and Gender, Tennessee, 1997-2000, All Races

Primary Site	Males		Females	
	Number of Cases	Age-Adj. Rate	Number of Cases	Age-Adj. Rate
All Cancer	43,961	463.9	44,172	348.1
Lip	166	1.8	43	0.3
Tongue	327	3.3	153	1.2
Major Salivary Gland	152	1.7	103	0.8
Floor of Mouth	104	1.0	41	0.3
Gum and Other Mouth	191	2.0	168	1.3
Nasopharynx	70	0.7	35	0.3
Oropharynx	69	0.7	18	0.1
Hypopharynx	133	1.3	30	0.2
Esophagus	671	7.0	230	1.7
Stomach	741	8.2	478	3.6
Small Intestine	154	1.7	134	1.0
Colon excl. Rectum	3,778	41.7	4,085	30.9
Rectum and Rectosigmoid	1,575	16.7	1,208	9.3
Anus	95	1.0	153	1.2
Liver	352	3.7	185	1.4
Gallbladder	44	0.5	127	1.0
Pancreas	937	10.1	858	6.5
Larynx	911	9.2	234	1.9
Lung and Bronchus	9,750	102.8	6,193	47.8
Bones and Joints	96	1.0	76	0.6
Soft Tissue	283	2.9	259	2.1
Melanomas	1,196	12.4	983	8.1
Breast	137	1.5	14,406	115.7
Cervix	.	.	1,187	10.0
Corpus Uteri	.	.	2,200	17.3
Uterus NOS	.	.	107	0.8
Ovary	.	.	1,520	12.1
Prostate	10,461	109.5	.	.
Testis	452	4.3	.	.
Penis	87	0.9	.	.
Bladder	2,610	29.1	942	7.1
Kidney	1,453	14.9	988	7.8
Ureter	73	0.8	54	0.4
Eye	89	0.9	60	0.5
Brain	712	7.0	568	4.6
Thyroid Gland	356	3.5	937	8.1
Hodgkins Disease	303	2.9	233	2.0
Non-Hodgkins Lymphoma	1,795	18.9	1,682	13.0
Multiple Myeloma	492	5.3	489	3.7
Acute Lymphocytic	142	1.3	97	0.8
Chronic Lymphocytic	253	2.8	183	1.4
Acute Myeloid	272	2.9	286	2.3
Chronic Myeloid	121	1.3	81	0.6
Other Leukemias	166	1.8	116	0.9
Other Sites	2,192	23.3	2,242	17.2
Breast in situ (not included in All Cancer)	17	0.2	2,572	20.9

Source: Tennessee Cancer Registry. Data are approximately 80% complete. Interpret with caution.

[1] Rates are per 100,000 and are age-adjusted using the 2000 U.S. population standard.

[2] Counts and rates are suppressed when fewer than 6 cases were reported.

Table 3. Total Cancer Cases and Age-Adjusted[1] Cancer Incidence Rates[2] By Primary Site and Race, Tennessee, 1997-2000, All Genders

Primary Site	White		Black		Other	
	Cases	Rate	Cases	Rate	Cases	Rate
All Cancer	76,752	387.9	10,877	422.6	358	330.4
Lip	208	1.1	.	.	.	.
Tongue	431	2.2	47	1.8	.	.
Major Salivary Gland	222	1.1	31	1.1	*	.
Floor of Mouth	120	0.6	24	0.9	*	.
Gum and Other Mouth	309	1.6	48	1.8	*	.
Nasopharynx	79	0.4	23	0.9	*	.
Oropharynx	73	0.4	14	0.5	.	.
Hypopharynx	129	0.6	32	1.2	*	.
Esophagus	723	3.6	177	7.1	*	.
Stomach	965	4.9	246	9.8	*	.
Small Intestine	224	1.1	60	2.3	*	.
Colon excl. Rectum	6,700	33.9	1,125	44.7	32	33.9
Rectum and Rectosigmoid	2,449	12.3	319	12.6	12	13.6
Anus	222	1.1	24	0.9	*	
Liver	424	2.1	96	3.7	11	9.6
Gallbladder	138	0.7	32	1.3	*	.
Pancreas	1,489	7.5	296	11.9	10	10.7
Larynx	972	4.9	172	6.8	*	.
Lung and Bronchus	14,026	69.6	1,873	75.0	36	38.2
Bones and Joints	151	0.8	19	0.6	*	.
Soft Tissue	446	2.3	88	3.0	6	3.9
Melanomas	2,140	11.1	31	1.2	*	.
Breast	12,763	65.2	1,697	63.5	58	42.2
Cervix	908	9.1	271	16.4	*	.
Corpus Uteri	1,955	17.7	227	14.6	12	15.3
Uterus NOS	90	0.8	17	1.1	.	.
Ovary	1,365	12.6	147	9.2	7	12.1
Prostate	8,791	102.3	1,614	173.7	42	125.9
Testis	434	4.9	16	1.0	*	.
Penis	76	0.9	11	1.2	.	.
Bladder	3,303	16.6	231	9.3	9	8.8
Kidney	2,120	10.7	306	11.6	10	11.8
Ureter	123	0.6	*	.	.	.
Eye	138	0.7	10	0.3	*	.
Brain	1,167	6.1	99	3.1	11	7.1
Thyroid Gland	1,171	6.2	102	3.6	16	6.9
Hodgkins Disease	457	2.5	71	2.1	6	4.3
Non-Hodgkins Lymphoma	3,168	16.1	281	10.4	15	12.1
Multiple Myeloma	776	3.9	197	7.9	6	8.9
Acute Lymphocytic	209	1.2	24	0.6	*	.
Chronic Lymphocytic	386	1.9	46	1.9	*	.
Acute Myeloid	496	2.5	61	2.1	*	.
Chronic Myeloid	173	0.9	29	1.0	.	.
Other Leukemias	260	1.4	22	0.8	.	.
Other Sites	3,783	19.2	617	23.9	20	18.4
Breast in situ (not included in All Cancer)	2,307	11.7	262	9.9	*	.

Source: Tennessee Cancer Registry. Data are approximately 80% complete. Interpret with caution.

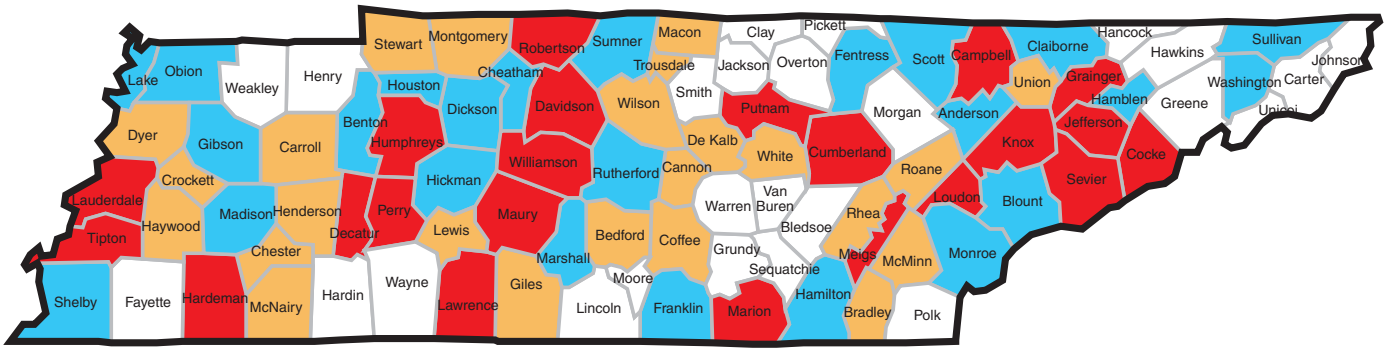
[1] Rates are per 100,000 and are age-adjusted using the 2000 U.S. population standard.

[2] Counts and rates are suppressed when fewer than 6 cases were reported.

Appendix B

The distribution of age-adjusted cancer rates by county in Tennessee is presented in Figure 1.

Figure 1. Age-Adjusted Cancer Incidence Rates by County of Residence All Cancers, Tennessee 1997–2000. All Races



All Cancers

- 407.6–519.1
- 381.3–407.5
- 343.1–381.2
- 185.2–343.0

Source: Tennessee Cancer Registry. Rates are per 100,000 and are age-adjusted to the 2000 U.S. population standard.

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